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by

William Hadyn Roberts, Jr.

December 1987

Thesis Advisor: Advisor: David R. Whipple

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United States Naval Hospital Ship Program: History, Evolution, and Configuration Management

by

William Hadyn Roberts, Jr.
Lieutenant, Medical Service Corps, United States Navy
A.A., Atlantic Community College, 1977
B.S., Jacksonville University, 1979
M.B.A., Augusta College, School of Business, 1981

Submitted in partial fulfillment of the
requirements for the degree of

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from the

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December 1987

ABSTRACT

This thesis presents an analysis of past and present American and International hospital ships with the goal of categorizing Technical, Political and Cultural (TPC) influences. The theoretical framework for such an effort is the TPC Theory advocated by Noel M. Tichy. Configuration Management (CM) is offered to the reader as a unique managerial and integrative mechanism for controlling, coordinating and implementing TPC influences in a Department of Defense system such as the 1980's hospital ship project. The author concludes that a successful merging of TPC Theory and Configuration Management is a possible and desired result. Recommendations include utilizing the TPC/CM ideas in future Naval Medical Command systems and specific recommendations for managing TPC influences in future hospital ship projects.

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I. INTRODUCTION

A. BACKGROUND

The main theme running through this thesis is evolution and the management of change. The author is primarily interested in the evolution of past and present American hospital ships. This interest is expressed in comparing the changes that have occurred over the years in the choice of ship configuration, and the changes in the onboard medical treatment facility (MTF).

But the evolution of any system, and the management of change in that system, does not occur in a vacuum. It is the author's contention that hospital ships are affected by unique Technical, Political and Cultural (TPC) influences that are expressed in the final choice of hospital ship configuration and MTF configuration. Many times one of these TPC influences is the dominant one, usually there are three involved in a decision for change and are difficult to separate.

It is not enough to know that systems evolve and are subject to TPC influences that affect changes made to the system. Managers, particularly health care managers, have a reason and need to know how to manage these TPC systems in a system under construction, or in the end product being deployed. One useful tool is Configuration Management (CM)

which is a DOD wide procedure for administering and documenting changes to a system.

It is more than just a collection of manuals in contract administration. CM, properly constructed, can serve as a unique vehicle for managing the competing TPC systems in a health care system and is especially appropriate for a deployed hospital ship.

B. THE TECHNICAL, POLITICAL, CULTURAL (TPC) THEORY

The TPC Theory was formulated by Noel M. Tichy in his book Managing Strategic Change - Technical, Political, and Cultural Dynamics [Ref. 1]. The author of this thesis chose this particular theory as a model to categorize the various pressures within the 1980's hospital ship project for two reasons. The first reason is the TPC Theory was derived directly from Tichy's involvement in various health care systems in the United States. Second is the author's belief that the TPC Model will have an intuitive appeal to the working health care manager, and layman, alike.

The model's foundation is composed of three distinct yet interrelated and interdependent [Ref. 1:p. 10] change management foci in a health care endeavor such as the hospital ship project: (1) the technical aspects of work, (2) power, and (3) values. Tichy uses the analogy of the strands of a 'strategic rope' [Ref. 1:p. 11] where the comparable strands match the foci in the technical strand,

political strand and cultural strand. Tichy states in his preface that:

> It should be made clear that TPC theory is not a formal theory. It is a meta-theory, a framework for working with organizational problems, . . . it is, hopefully, a pragmatic tool as well as a conceptual framework for conducting research and building a body of knowledge in the field of change. Theories are intellectual tools for organizing data in such a way that one can make inferences on logical transitions from one set of data to another; they serve as guides to the investigation, explanation, organization, and discovery of matters of observable fact (Deutsch and Krauss). Even though TPC theory generally meets these criteria, it is not explicit enough about its assumptions, the mode of logical inference and the empirical referents are not worked out; and there is no ability to unambiguously test the theory's implications. As a theoretical orientation, however, I hope it will stimulate work that will move it from a meta-theory to a more formal theory. [Ref. 1:p. 9]

The above quote points out some of the strengths as well as weaknesses of the TPC theory. It not only provides a theoretical orientation for this thesis but it also provides a framework to categorize the Technical, Political and Cultural pressures throughout the life history of the hospital ship project. The TPC theory aids in tracing the evolution of hospital ship configurations, American and foreign, past and present, by categorizing all pressures and configuration changes into one of three areas.

The practicing health care manager will gain a new awareness of how organizational processes work through and around him or her by identifying the TPC influences. Perhaps the single greatest benefit of the orientation the TPC theory provides is in the area of change management. The day to day

manager will become aware that no change in any of these areas will be successful unless the other two systems are considered. Tichy's book provides a multitude of practical change mechanisms all of which are beyond athe scope of this thesis. Common to all these mechanisms and of interest to the pragmatic health care manager, is the first step - one must correctly identify and categorize the influences and associated changes into one of the three TPC systems before change management can occur.

Later in this thesis the role of configuration management is explored as a practical change mechanism for the pragmatic manager to utilize. It is not mentioned in Tichy's book, and most of the current literature on Configuration Management (CM) focuses on the clerical, administrative and technical aspects of Configuration Management documentation. It is the author's view that the Configuration Management procedures and philosophy can be successfully merged with the TPC theory to provide a useful change mechanism within the confines of Department of Defense regulations.

C. OBJECTIVES OF THE RESEARCH

This thesis strives to reach a number of research objectives. Each objective is judged equally important by the author because there is a need for information in each area. The following list sums up the identified research objectives:

1. To provide a concise history of the U. S. Navy's Hospital Ship Program, from the needs assessments of the late 1970's to project completion of two hospital ships in 1986 and 1987.

2. To trace and compare the evolution of American hospital ship configuration from the Civil War to the present.

3. To compare present-day hospital ship/clinic ship configurations in the international community.

4. To outline the Technical, Political and Cultural Theory (TPC) as a model to categorize the various internal and external pressures present in the 1980's hospital ship project.

5. To survey the field of Configuration Management and its methodology as a unique vehicle for communicating and balancing the TPC influences among interested parties.

6. To categorize the concrete configuration changes of the USNS Mercy and USNS Comfort in terms of Configuration Management documentation, and the associated dollar cost of these changes.

7. To draw conclusions and recommendations from the roles of Configuration Management and the TPC model in present and future construction of hospital ships.

8. To provide a bibliography of references on hospital ships and configuration management.

D. RESEARCH METHODOLOGY

This research effort consisted of two separate approaches: (1) on-site visits to the Hospital Ship Project Manager Office, Naval Sea Systems Command, Washington, D. C. and the Supervisor of Shipbuilding (SUPSHIP)/USNS COMFORT Cadre Crew Office, San Diego. Extensive personal interviews and research through office documents were conducted; and (2) extensive literature searches through the standard and

military indexes as well as computer searches through DTIC, MEDLARS/MEDLINE and ARLEN.

E. SCOPE AND LIMITATIONS

The scope of the thesis in regards to hospital ships is limited to those floating platforms which have as their primary mission the provision of some type of health care. The scope of the thesis in researching the field of configuration management was limited to those aspects of CM which are the approval mechanisms and processes which manage change. The thesis does not address the intricate technical and administrative details of CM processes, accounting audits and procedures for documenting CM changes.

Limitations in the research interviews primarily involve the reluctance of civilian and military personnel to 'speak on the record' concerning specific changes made in the 1980's hospital ship project and what specific technical, political or cultural influence was the impetus for the implemented change. The literature search on the general topic of hospital ships was primarily hampered by the lack of time to obtain them. The topic has not been written about extensively. Many articles are in overseas journals and only in a foreign language. Domestic sources of literative searches were limited by computerized data bases going back only as far as the late 1960's. Manual indexes and

college/university libraries within reasonable commuting distance of the Monterey Peninsula were also utilized.

F. THESIS CHAPTER SUMMARY

The first chapter briefly introduces the reader to the hospital ship concept, the Technical, Political, Cultural Theory, the nature of change and evolution in hospital ships, the nature of configuration management as a change mechanism, and the cost aspect of all implemented changes.

In Chapter II the author traces the evolution of hospital ship configuration with commentary on the TPC influences in each time period. Historical summaries are kept to a minimum.

Present day international hospital ship configurations and onboard medical treatment facility configurations are covered in Chapter III. Historical summaries are kept to a minimum and TPC influences are also commented on when appropriate.

The history and evolution of the 1980's hospital ship program is discussed in Chapter IV. A detailed history of the project complete with TPC influences is given from project initiation through deployment of the USNS MERCY.

Configuration Management (CM) is covered in Chapter V. Several definitions, the role of CM in the hospital ship project and specific examples of documented CM changes are

given. The CM process as a TPC integrating mechanism is also discussed.

Chapter VI presents the author's summary and conclusions and makes some recommendations for future consideration.

II. HISTORICAL EVOLUTION OF UNITED STATES HOSPITAL SHIPS

A. INTRODUCTION

This chapter will trace the evolution of American hospital ship configurations, and onboard medical treatment facility configurations throughout United States history. Where possible the various technical, political and cultural influences of the specific time period will be commented on, along with their effect on the particular hospital ship under construction.

B. PRE-CIVIL WAR

There were no American hospital ships prior to 1860. There was a tradition of Spanish, French and British hospital ships dating back to the Spanish Armada fleet (1587-1588) which included fifteen galleons designated to carry only the sick and wounded. In the innumerable wars between these three great European seapowers, there were designated sailing ships, of various configurations and minimal medical facilities, to carry home the sick and wounded [Ref. 2:pp. 1-15].

The Americans may have used sailing vessels primarily for carrying sick and wounded men but none have been recorded. During the War of 1812 a British hospital ship, the HMHS GORGEN accompanied the British expedition to the United

States. No details were available [Ref. 2:p. 16] on the ship configuration or medical treatment facilities.

C. CIVIL WAR, 1860-1865

The American use of hospital ships began with floating barges that served as make-shift hospitals near battles fought by large inland rivers. In 1862 the Union army captured a large Mississippi river side-wheeler from the Confederates at New Orleans. In that same year the steam propelled, wooden ship was transferred to the Western Gunboat Flotilla and was commissioned the RED ROVER on December 26, 1862. The ship weighed 786 tons and had holds that could carry three hundred tons of ice and two month's supply of food and medical needs. The ship's crew complement was twelve officers and thirty-five enlisted personnel. The medical treatment facility included seventy medical personnel--doctors and orderlies. One quote described her:

> as the most capable thing of its kind ever floated . . . qauze blinds at the windows to keep the cinders and smoke from annoying the sick . . . two water closets on every deck, an elevator and special amputating rooms. [Ref. 3:p. 16]

The RED ROVER could treat up to two hundred patients at a time.

D. SPANISH-AMERICAN WAR, 1898-1899

The (first) USS RELIEF was used by the United States Army as a floating ambulance. The ship's medical treatment facility had 195 beds. The technical medical innovations of

that time: "included a 30-cot, insect-proof isolation ward and two padded cells." [Ref. 3:p. 18]

The other hospital ship used during this war was the USS SOLACE (AH-2). The ship configuration was that of a 377 foot passenger steamer. After the war the ship's configuration was modified in 1909 at Charleston, SC. As stated in one source [Ref. 3 :p. 17] at Charleston the superstructure was enlarged, but then SOLACE tended to roll too much to carry patients comfortably. To counteract this, the superstructure height was reduced and, according to one account, 200 Civil War cannon were embedded in concrete in the hull, making SOLACE, a hospital ship, the most heavily gunned (ship) in the Navy. This might be thought amusing until one remembers that both the USNS MERCY and COMFORT have water ballast in their holds making up almost half of the ship's weight. It has been said by the crew of the MERCY that if the ship were torpedoed, (15 allied hospital ships were in World War I) more water would flow out than would flow in.

One interesting note on the medical treatment facility configuration of the SOLACE is that she was the first U. S. Navy ship to fly the Red Cross flag, a "cultural" influence.

E. WORLD WAR I, 1914-1918

Three American hospital ships were used after World War I. They were the USS COMFORT (AH-3), USS MERCY (AH-4) and USS SOLACE (AH-5). The ships were small, steam powered

passenger liners. The medical treatment facility had 250 beds in each ship. The political and cultural influences of that time period were such that: "hospital ships had been viewed essentially as transports for casualties, converted liners or cargo ships designed to get the wounded out of the combat zone and back to a hospital ashore" [Ref. 3:p. 18]

F. POST-WWI/PRE-WWII, 1918-1940

The first U. S. Navy ship originally designed and built as a hospital ship was the (second) USS RELIEF (AH-1). She was commissioned on December 28, 1920, served through the inter-war period, and all through World War II. The RELIEF was 438 feet long and weighed 10,112 tons. She was considered the most sophisticated Navy medical facility afloat. The medical treatment facility configuration included 44 medical officer, 331 corpsmen and space for 500 patients. The ship " . . . offered all the facilities of a shore-based hospital, including specialists in different branches of medicine" [Ref. 3:p. 19]

The political influence of the time was such that additional hospital ships were not built. Technical influences took a backseat during this time period.

One critic wrote in favor of building hospital ships from the keel up, rather than converting existing vessels,

> Above all other things, the fleet hospital ship should be a vessel designed and built for that specific purpose. . . a house or a factory on shore, made over into a hospital,

would by no means be expected to approach the ideal. [Ref. 3:p. 18]

Johnson (R. ADM . . . MC) made several recommendations to improve hospital ship constructions. Among them: that the ships displace about 10,000 tons:

> a convenient size, large enough to house a hospital, yet small enough to navigate in cramped harbors; that they are fast enough steam with battle groups; and that they be able to darken ship without detracting from the care given to patients. [Ref. 3:p. 19]

It is interesting to note the TPC conflict between those who wish to build new construction hospital ships from the keel up, and those who wish to convert existing vessels. Usually the political influence has 'won out' due to emergent needs of armed conflict. But even in the 1980's hospital ship project this conflict was reflected in various studies on the need for new hospital ships, and reflected in the Request for Proposals (RFP's) submitted by potential hospital ship offerors. The final result of the TPC dilemma was a compromise--large supertanker hulls almost completely gutted, and then rebuilt in a hospital ship configuration.

G. WORLD WAR II, 1941-1945

There were twelve American hospital ships used during World War II. The USS RELIEF (AH-1) has already been described. (The USS SOLACE (AH-2), USS COMFORT (AH-3) and USS MERCY (AH-4) were decommissioned during the inter-war period and although these ship names were used again--the original ships were not).

The (second) USS SOLACE (AH-5) was an 8,900-ton converted passenger liner. She was commissioned August 9, 1941 and treated casualties during the Pearl Harbor attack. The (second) USS COMFORT (AH-6) and the (second) USS MERCY (AH-8) were also converted passenger liners. Both were commissioned in the summer of 1944. No information was found on the USS HOPE (AH-7) as to ship configuration.

The USS BOUNTIFUL (AH-9) ship configuration was that of a World War I marine transport that was converted, and then commissioned as a hospital ship on March 23, 1944. The USS SAMARITAN (AH-10) ship configuration was initially a military transport ship (the USS CHAUMONT) before commissioned as a hospital ship on May 24, 1944.

More information than usual was available on the USS REFUGE (AH-11). Her basic ship configuration was also that of a military transport (the USS KENMORE). She was 544 feet long and had 14,000 tons displacement. The following quote is typical of hospital ships converted from military transports:

> One significant construction (or conversion feature) was the building of cargo ports (for embarking and debarking patients) on each side of the second deck opposite the elevator, with a lobby connecting the cargo ports with the elevator and with the passageways to the wards. This facilitated patient loading since half the hospital beds were on the second deck and the elevator was required only for the litter patients on the third deck and in Sick Officers Quarters. The conversion process also involved extensive repairs of decks, laundry spaces, and other areas to meet medical needs. This was accomplished at the Maryland Dry Dock Company shipyard in Baltimore. A patch-work job of conversion first proposed was finally

replaced by a thorough rebuilding of the ship. An Optical Lens Unit was installed and several motor launch life boats and life rafts; comprehensive equipment for a first class hospital was obtained and placed aboard the converted vessel. With Red Cross help, large quantities of surgical dressings were procured. [Ref. 4:pp. 38-39]

The medical treatment facility configuration aboard these ships was 630 beds with a 72 cot mobile field hospital. The medical personnel consisted of 29 medical officers, 27 Navy nurses and "many" hospital corpsmen.

The last of the 'early' World War II hospital ships was the USS RESCUE (AH-18). Her ship configuration was of a passenger liner before converted and commissioned as a hospital ship on May 7, 1941. Her medical treatment facility configuration was initially that of an ambulance transport for dock loading only. Later she was equipped with an electric hoist for litter patients. The MTF bed capacity was 776 beds. The medical complement was 11 medical, 1 dental and 4 hospital corps officers, 25 nurses and 164 enlisted corpsmen.

H. POST WORLD WAR II, KOREAN WAR AND VIETNAM WAR 1945-1976

The last six hospital ships that served from 1945, to the last one decommissioned in 1976, were "Haven" class hospital ships. The basic ship configuration was 520 feet by 71.5 feet by 22 feet. The displacement in tons was 11,141 standard and 15,500 full load. The main engines were General Electric steam turbines with 1 shaft of 1,000 shaft horse power and 18 knots speed. [Ref. 5:p. 761]

The hospital ships in this class were:

USS HAVEN (AH-12)	-	Commissioned May 5, 1945
USS BENEVOLENCE (AH-13)	-	Commissioned May 18, 1945
USS TRANQUILITY (AH-14)	-	Commissioned April 24, 1945
USS CONSOLATION (AH-15)	-	Commissioned May 22, 1945
USS REPOSE (AH-16)	-	Commissioned June 2, 1945
USS SANCTUARY (AH-17)	-	Commissioned June 20, 1945

Each ship had a complete hospital with operating rooms, wards and ancillary services. Each ship's crew complement had 67 officers and 420 enlisted men. The MTF personnel was composed of 45 officers and 120 enlisted men. The USS CONSOLATION (AH-15), the USS REPOSE (AH-16) and the USS HAVEN (AH-12) were used during the Korean War. The TPC system during the Korean War is evident in the following excerpt:

> All three ships were anchored offshore at Inchon for a considerable period of time and used as floating base hospitals. Together they provided complete, definitive, surgical and medical care and approximately 2,500 beds for combat troops within a relatively short distance from the battlelines. This close support was possible because the United Nations forces controlled the sea and airways. Such close support had not been possible during most of World War II owing to the danger of enemy air or naval attack. After the fighting in northern Korea became heavy, the hospital ships served mostly on the east coast of Korea as floating hospitals and to take casualties to Japan. The most important event at that time was the development and installation of helicopter landing platforms on the sterns of the ships. This enabled the helicopter ambulance to pick up wounded men from near the battlelines and deposit them aboard a modern floating hospital almost within sight and sound of enemy guns, sometimes in less than 20-30 minutes. For the first time in the history of warfare battle casualties could receive definitive medical and surgical care in a matter of minutes after being stricken. The hospital ship with the landing platform, first suggested in the battle area by

Vice Admiral Joel T. Boone, MC, USN made this possible. [Ref. 4:p. 431]

During the Vietnam War the USS REPOSE (AH-16) and the USS SANCTUARY (AH-17) were used in much the same manner as expressed in the above excerpt. Both these ships were decommissioned near the end of the war. There were no active duty hospital ships until the USNS MERCY (T-AH-14) and USNS COMFORT (T-AH-20) were constructed in the late 1980's. Appendix A lists the specific ship configurations and medical treatment facility configurations of these two ships. A photograph and drawings are also provided of these ships. A specific history of these ships, along with their TPC influences, is provided in Chapter IV.

I. PROJECT HOPE

One of the best known hospital ships, at least to the American people, is the SS HOPE. In 1959 a non-profit organization called the People to People Health Foundation persuaded President Eisenhower to release from the "mothball fleet" the USS CONSOLATION (AH-15)--one of the Haven Class hospital ships used in World War II and the Korean War. The following exerpt shows the TPC influences during the initial outfitting of Project Hope:

> The CONSOLATION will be a great floating hospital center--a medical school, a training and treatment center, a base for medical, nursing, and sanitation teams, and the logistic center for medical aid, health, and exchange programs. It will be a tangible evidence of American friendship and understanding. The great 800-bed hospital was constructed during World War II and was service in

> that war and the Korean conflict. Its equipment includes ample hospital beds, and space which can be used as class and demonstration rooms, operating rooms, and laboratories. It has quarters for the personnel and crew needed to staff and operate the ship, and only some new equipment from private sources is needed to make it completely modern and able to provide a broad training base. [Ref. 6:p. 414]

The medical treatment facility configuration of this type of ship has already been described. The medical complement described by one source is:

> The permanent medical staff aboard will include 10 physicians, experts in various fields of medicine and surgery, about 20 graduate nurses, technicians, and practical nurses, and 10 to 15 epidemiologic, nutrituional, sanitation, and public health mobile groups. The remainder of personnel will be volunteer units of specialists who will serve three-month tours. They will be selected by a committee representing American medical colleges. [Ref. 7:p. 28]

Project Hope sailed from 1959 to 1972, visiting over fifteen different countries over that time period. The ship was eventually scrapped as too cost inefficient and Project Hope went to flying teams of medical specialists and supplies to needed areas.

J. LIFE INTERNATIONAL

Life International is a non-profit organization "dedicated to providing medical care and training and other humanitarian services to the people of less developed countries (LDC's). [Ref. 8:p. 2]. The purpose of H. R. 406 is to amend Public Law 97-360 to extend the expiration date for Life International to remove up to three ships from the

National Defense Reserve Fleet (NDRF) for conversion to hospital ships along the lines of the SS HOPE.

Among the candidates mentioned for conversion in this legislation is the USS SANCTUARY (AH-17) which is still "retained in the inactive fleet as a contingency until new construction ships are completed." [Ref. 9:p. 6] This ship is the surviving sister of the Haven Class hospital ships. If reactivated she will be the last of the old style hospital ships. The prospect for this appears doubtful due to the inability of Life International to raise $100,000 a year, much less the $10 million deeded to retrofit even one ship.

The bill passed the House of Representatives and was sent to the U. S. Senate for consideration. Opponents of the bill objected to the Federal Government providing two-thirds of the retrofitting cost, others opposed it on deficit reduction reasons, still others opposed it because they thought the eventual goal of Life International was total funding of the project.

In on interesting turnabout in TPC influences the Project Hope organization turned out to be a major opponent. The various reasons Project Hope listed against the Life International ship or ships are stated below:

1. The cost of repair and refitting of ships of this vintage for the purpose outlined are beyond reason. Inflation and age take a drastic toll.

2. If repaired and refitted, the maintenance and constant repair required of ships of this age is

2. If repaired and refitted, the maintenance and constant repair required of ships of this age is arbitrary. We know, we have been there. Spare parts are lacking and frequently must be fabricated adding to expense.

3. The cost of fuel--which is required in considerable amount even in port, is still arbitrarily expensive. Keep in mind, when we last sailed the SS HOPE, fuel was only $1.80 per barrel.

4. Such vessels cannot be manned by volunteer crews. Unemployment in the maritime industry is at an all time high. American union seamen, although the most efficient in the world, are also the highest paid.

5. It is impossible to obtain authorization from the Coast Guard for an American Flag Ship to be cleared to go to sea without union seamen. This is not a political problem but one of safety at sea in the eyes of the Coast Guard.

6. Navigation and radar equipment required for maritime vessels is far in excess of that required for military ships. The expense of these additions is significant, and must be kept current as regulations change.

7. If these vessels have not been utilized in recent years, just the installation of sewage disposal systems as required by international and United States law are an arbitrary expense. This requirement cannot be waived.

8. Once such ships are utilized by a private voluntary organization, each time they return to the United States they must be recertified by the Coast Guard. During all the years we sponsored the SS HOPE, there was never an occasion that regulations had not changed--and substantial expenses encountered in the shipyard before recertification was obtained. This does not even address the normal maintenance and repairs constantly required by an ocean going vessel.

9. During this time of budgetary crisis, the national security of the United States will not benefit in any way from such an activity. The Executive Branch and the Congress are faced with

> difficult decisions on the establishment of priorities. Indications that the budget of the Agency for International Development will be reduced by 10.6% this coming year is evidence of the seriousness with which congress is looking at expenditures for this type of activity. It would seem to us that any action which would imply the eventual use of such vessels with substantial federal funding is remote." [Ref. 9:p. 53]

The cynical might also add that there is competition even among charities. The TPC reasons against reactivating the SANCTUARY or any other ship appear insurmountable. Federal funding for such a purpose would be better spent on the USNS MERCY and USNS COMFORT for future additional humanitarian missions.

K. MERCY SHIPS

There is one non-profit charitable organization that runs two hospital ships on a continuous basis. A Christian missionary organization. "Youth With A Mission" [Ref. 10] has one full fledged hospital ship on the West Coast, and a medical clinic ship on the East Coast. The Mercy Vessel ANASTASIS is based on the West coast and has been in operation since 1981. The ship makes frequent trips to Mexico and has conducted a South Pacific cruise to Fiji, Tanga, Samoa and New Zealand.

The ship configuration of M/V ANASTASIS is that of a cargo passenger vessel built in 1953. She was purchased for $4 million in 1978 by Mercy Ships to provide medical care and Christian missionary activities to less developed countries.

The ship is 522 feet long by 68 feet wide and is nine stories tall. The vessel weighs 11,695 tons and is powered by an 8,000 horse power diesel engine. The medical treatment facility configuration consists of a 30-bed hospital with one general operating room, one eye operation/corrective surgery room, laboratory, X-Ray room, dental clinic, dental laboratory and pharmacy. The core medical staff is comprised of two doctors, eight nurses, and a varied number of LPNs. Depending on the nature of a medical mission, a roster of 50-60 specialists can be provided for any particular trip which can last up to three months.

The other ship, the M/V SAMARITAN, is a medical clinic ship based in Florida. The ship configuration is that of a former yacht, 173 feet long by 38 feet wind and weighing 1,036 tons. It has refrigerated storage space of 2,500 cubic feet. The ship's medical missions include trips to countries in the Caribbean Basin and the Amazon River in Brazil.

In contrast to some of the TPC influences listed in the preceding section these ships are much smaller operations than those comtemplated by Life International. Also, the ship's crew are all volunteers with the M/V ANASTASIS of Maltese Registry and the M/V SAMARITAN of Panamanian Registry.

L. NEW YORK CITY'S FLOATING HOSPITAL

A 'hospital ship' on a much smaller scale than all of those discussed before is found on the Hudson River in New York City. The hospital ship is actually a floating medical clinic for the indigent poor of New York City. The medical clinic is a barge constructed to look like a small ship with three decks. Its source of power is a tugboat and a long towline.

The group that operates the Floating Hospital is St. John's Guild which is a private, non-profit and non-sectarian organization. [Ref. 11:p. 8]

The ship can carry over 800 patients for day trips up the Hudson river. Over 2/3 of the patients are children. There are 100 staff members including doctors, dentists, nurses and physicians's assistants in all the usual outpatient services.

M. SUMMARY

The concept of the hospital ship mission, as well as the ship/MTF configuration, has changed over the years. Initially this change was due to Cultural influences in societies at large. Compassion for those wounded in action evolved from simple transport to rudimentary medical care. As the Technical influence of advancing medical technology was achieved it was reflected in even more complex MTF configurations. State of the art in ship building also

advanced from the simple sailing ships of so many years ago, to the modern supertanker/hospital ship platforms of today.

Political influences also played their part through the years. Most of the time hospital ship conversions appeared as an afterthought to armed conflict. Occasionally some advanced preparation was made and a hospital ship was constructed in advance of need. When a Political influence was made known in the form of an armed conflict, the available Technical and Cultural influences were reflected in the available ship configurations, and available medical technology of the time. This chapter has attempted to show the evolution of these TPC influences as reflected in ship and MTF configurations of the time.

III. INTERNATIONAL 'HOSPITAL' SHIP/MEDICAL TREATMENT FACILITY CONFIGURATIONS

A. INTRODUCTION

The objective of this chapter is to prevent a parochial interest in only American hospital ships. Many countries, friendly and otherwise, use hospital ships in their military forces or in civilian uses. Although the available research material was quite sketchy in this area the author will present the data which was available on the various ship configurations and onboard MTF configurations in current use. The reader should gain an appreciation that TPC influences are not uniquely American but affect the development and utilization of hospital ships in many different cultures.

Another objective of this chapter is to indicate which other countries have hospital ships, their configurations and missions and to comment on some of the TPC influences that may have affected their development. The last section of this chapter details some of the unique TPC influences in the British experience of converting civilian ships to hospital ships.

B. MICRONESIA/U. S. TRUST TERRITORY

One of the first areas of the world to be surveyed is close to home in an administrative sense. The area of the Pacific known as Micronesia is administered by the United States under a United Nations mandate. This has been the

situation since the end of World War II. Culturally the area is a mix of Pacific island cultures and languages. Japanese and English are the main unifying languages among the major island groupings.

Politically the area has been ignored by the United States, at least until recently. Minimal economic aid, and minimal health care aid, has been the norm. The twin pressures of Pacific island nationalism and Russian encroachment have forced the United States to view the area in a new perspective.

One expression of the interest has been strictly altruistic. A private, non-profit organization called Marimed provides health care and training to the people of Micronesia. This area presents serious logistical problems because MIcronesia is composed of over 3100 islands spread over 3000 miles.

The basic ship configuration used by Marimed are 150 foot sail boats built at a cumulative total cost of $2.6 million. The medical treatment facility configuration aboard each sailing vessel consists of an X-Ray room, diagnostic laboratory, and treatment rooms.

One article [Ref. 12:p. 52] states that:

> Volunteer health educators, doctors, dentists, and nurses will treat patients while training native healers, midwives, and health assistants. Because the ships will use sail propulsion at trade wind latitudes, they will burn less than $100 per day in fuel--compared to the $2800 per day now spent by motorized ship's bringing supplies to the outer islands.

Thus the geography of the area and (so far) low economic support given to the area have dictated the configuration of one of the more unique hospital ship platform configurations in this chapter.

There is also a Cultural influence in the operation of these sailing hospital ships. The islanders have a need to be involved with the delivery of health care in their island groups. Island and tribal centers of power can be disrupted if the local health care professionals are not added to 'the team'.

The plan of operation is as follows:

> Marimed's ships will circle the Marshall Islands and other Micronesian territories, staying a week or two at each atoll. In addition to going ashore to treat patients and train local health care workers, Marimed personnel will use the ships as "central switchboards" that will be accessible to all of Micronesia. Micronesian health care workers will call in symptoms and receive instructions about treating patients via radio. [Ref. 12:p. 53]

C. ASIA

Another area of the world of increasing United States concern is Asia. Politically the United States has large stakes in the area through bases in Korea, Japan and the Philippines. Asia is also America's largest trading partner. The Soviet Union continues its efforts to increase political and military pressures in the area. Some of the Asian countries appreciate this, other do not. The aforementioned pressures have caused many of the Asian countries to escalate

their military expenditures. Among these expenditures are health care needs with a distinctly military bent. Those Asian countries with the money have recognized their current Political climate and are buying the latest Technical capability in the hospital ship area.

According to one source [Ref. 13:p. 71] an unnamed ASEAN nation launched "a revolutionary new form of hospital ship" in August 1985. The ship was deemed revolutionary because the basic ship configuration was that of a modified Landing Ship Tank (LST).

> The Rapid Deployment Hospital Ship (RDHS) has more in common with a Field Hospital than a conventional hospital ship. Firstly, it will get closer to the action in a battle or disaster area because of its configuration and dual role as a transport vessel. Secondly, the LST can approach an active area, perform its first level of responsibility--whether it be unloading equipment or troops--and then, in the space of about two hours, re-emerge as a floating surgical and medical facility. Finally, because this dual role will cause forfeiture of protection under the Geneva Convention in times of declared war, the RDHS will experience the same potential for enemy attack as a Field Hospital unit on land.

The medical treatment facility consists of a series of Medical, Ward, and Service modules to be stored on deck during a combat support mission. The modules would then be lowered into the ship and set into a hospital configuration after all combat troops and supplies have been removed. The concept is quite similar to the United States Naval Fleet Hospital Support Program which builds modular land hospitals of 250, 500 and 1000 bed hospitals to be prepositioned in allied nations around the world.

Some examples of Medical Container are Pathology Laboratory and Blood Bank, X-Ray, Recovery and Operating Theatre. Some examples of Service Modules are Generator, Waste Treatment Plant, Incinerator, Desalinator, and Morgue/Store. The article went on [Ref. 13:p. 72] to state that: "the containers are lowered into the hold of the ship . . . connected to the necessary plumbing and electrical outlets. Within an hour or two, the ship will be prepared to receive casualties."

The ships are modified by International Military Services Limited (IMS), a United Kingdom company described as "wholly owned by the British Ministry of Defense." IMS claims much of its knowledge and experience from the Falklands War. It converted the SS UGANDA, an educational cruise ship, into a combat troop carrier and floating hospital. IMS also converted the oceanographic survey ship HMS HYDIA, HEDA and HERALD into sea-ambulance ships serving the UGANDA.

D. PHILIPPINES

Countries such as South Korea, Japan or Indonesia can afford the technology offered in the preceding section--the Philippines cannot. This nation recognizes the Political influences in its part of the world but by history and trade is tied both Politically and Culturally very closely to the United States. Although the Philippines has had a long relationship with the United States it remains a relatively

poor country. The best this nation can do in the Technical area is to buy a Vietnam War era 'hospital ship'.

There was a very short entry in Jane's Fighting Ships [Ref. 5:p. 417] on a 'hospital' ship in the Philippine Navy. The ship is called the WESTERN SAMAR and it is an amphibious ship type configuration built in the United States as an LSM-1 class. The ship configuration characteristics are as follows: displacement in tons: 743 beaching, 1,114 full load, dimensions in feet" 203.5 X 34.5 X 7.5, guns: 1 - 40 mm(single) and 4 - 20 mm(single), main engines: 2 diesels, 2 shafts at 2,880 bhp = 12.9 knots, range in miles: 4,500 at 12.5 knots. There was little information on the medical treatment facility configuration except that the ship's complement was approximately 70 and that the "LP66 was fitted as hospital ship (LSM-H) for treating casualties retaining her armanent. Has deckhouses in and above well-deck."

Its interesting history is as follows:

> WESTERN SAMAR (ex-Hat Giang, ex-LSM 9011, ex-USS LSM 355), number LP66, commissioned 24 December 1944. LP66 originally transferred from U. S. Navy to French Navy for use in Indo China in January 1954; subsequently transferred to South Vietnam in December 1955.

E. BRAZIL

This survey of international hospital ships now leaves the Pacific and Asian areas for a look at South America. One of the largest countries in South America has two types of hospital ships, one military ship and one civilian use ship.

The Political influences in this region of the world are almost as turbulent as those in Asia. The countries in this area are extremely nationalistic, against outsiders as well as each other. Thus it is not surprising to see a health care Technical influence expressed as a military hospital ship.

Jane's Fighting Ships [Ref. 5:p. 61] lists one hospital ship in the Brazilian Navy. It is named the CARLOS CHAGAS and was built in Rio de Janeiro in 1984. The basic ship configuration characteristics are as follows: dimensions in feet: 154.2 X 26.9, displacement in tons: 500 full load, main engines: 2 diesels, 2 shafts, 714 Horsepower, Range in miles: 4,000 at 9 knots. The ship can carry a helicopter on an aft platform. The medical treatment facility configuration is composed of two sick bays, dental surgery, laboratory, two clinics and an X-Ray center. The ship's complement if four officers, six doctors and dentists, twenty-one ratings and fifteen medical ratings.

The civilian hospital ship operating in Brazil has much in common with the Marimed sailing ships operating in Micronesia.

An unnamed nonprofit organization in Phoenix, Arizona supports a 'hospital ship' on the Amazon River in the amount of $250,000 a year. The ship configuration is that of a former San Diego, CA harbor ferry, named the ESPERANEA, that was brought to the Amazon in 1974. The article [Ref. 14:p.

53] did not detail the specifics of the configuration of the medical treatment facility. It did state that the:

> . . . crew of volunteer doctors, dentists and nurses provide most of the medical and dental care for 175,000 people who live along the river. Their deadly enemies are diptheria, tetanus, measles, polio, tuberculosis and typhoid fever, as well as less exotic but still crippling afflictions like tooth decay.

The Political influence evident in the hospital ship configuration is that the Brazilians remain suspicious of United States intentions. They will accept health care support that is low key and that does not stir up any of the indigenous peoples in the area. Low key means a small vessel with a limited staff and capabilities. Culture may also play a part in ship configuration. South American cultures like to rely on themselves and don't like handouts especially from the North. These TPC influences all tend to keep the vessel configuration limited.

F. ARGENTINA

The TPC influences attributed to Brazilians can also be said to apply to another 'feisty' South American country--Argentina. Argentina has long vied for leadership of the South American continent against Chile and Brazil. It is also an extremely nationalistic and territorial country as shown with its frequent clashes with Chile and its recent war with the United Kingdom. All these Political influences led to the Technical development of military use hospital ships converted from other vessels.

Very little information was available in the current literature on the three Argentinian vessels that were designated hospital ships during the Falklands War. One was an Antartic Support Ship named the ARA BAHIA PARAISO. The actual ship configuration was not mentioned, and neither were the details of the medical treatment facility configuration. The one source [Ref. 15:p. 18] on this subject, stated:

> The Argentine ship carried specialists in surgery, trauma, intensive care and anaesthetics supported by others in medicine, cardiology, ophthalmology and dentistry, the complement was said to comprise of 25 medical officers and 50 male nurses with a potential capacity for 250 patients.

TPC influences that develop hospital ships in a war time scenario appear similar to American influences in the last chapter, or British influences to be covered in the next section. The Culture of health care afloat is the same--treating the sick and wounded in accordance with the Geneva Convention. Political trends are easily discernable in watching a war develop while Technical influences are based on each countries individual resources and ship configurations available for short term conversion.

G. UNITED KINGDOM

British TPC influences are the most closely aligned with the United States for obvious Cultural and historical reasons. Technical and Political influences vary in detail and time. The Political influences leading up to the Falklands War were short term, a matter of months, before

actual shooting started. The Political influences of poor readiness and planning resulted in a lack of foresight in having contingency hospital ships ready to deploy--quite similar to TPC influences to be covered in the next chapter.

Technical influences again depend on a nation's state of the art in ship building and health care technology--areas in which the United Kingdom is a leader. The British lead the world in converting a civilian ship into a hospital ship in less than one week. An education cruise liner, the SS UGANDA, provided the basic ship configuration for the conversion process. The ship was in Alexandria, Egypt when hostilities were declared and was quickly transported to a Gibraltar shipyard. While undergoing conversion (which took only 65 hours!) medical supplies were airlifted from London to Gibraltar for the supply effort.

The cruise liner of 77,000 tons already came equipped with berthing, messing, and rehabilitation (recreation) areas. The ship also already had massive storage areas, and a large sports deck was converted into a helicopter landing pad able to land fully laden Sea King helicopters. Patient ramps were constructed to provide access to the triage area, fitting of a jackstay for replenishment at sea, provision of extra power supplies and lighting to clinical areas, and the addition of a satellite communications facility.

The medical treatment facility configuration consisted of a 'Reception/Triage Area' with eight stations and individual

oxygen supply, suction facility and resuscitation equipment setups. The 'Main High Dependency Ward' was located beneath the flight deck and provided 44 beds. This ward had quick access to the triage area and the pharmacy. The 'Pharmacy' was complete in all wartime requirements and had easy access to the main ward and triage area. The hospital ship had one large 'operating theatre' with three operating tables and complete individual operating room setups. The 'X-Ray Department' had two machines with full automatic developing facilities. The 'Laboratory' was located in the former cocktail bar and provided facilities for hematology, biochemistry, limited bacteriology and crossmatching of blood. The storage of blood was also accomplished here by keeping the blood in "the cold drinks cabinets at a constant 4C." The 'Burns Unit,' which saw extensive use, was housed in the cruise liner's 'hospital' and provided 20 beds. The bed totals besides those already mentioned were 100 high dependency beds, with the former student dormatories providing accommodation for several hundred less seriously wounded patients. The article concluded with a determination that the United Kingdom prepare contingency plans ". . . for the future use of hospital and ambulance ships, which have again proved their place in modern warfare." [Ref. 16:p. 15]

The last sentence above is a bitter lesson learned for the British and a warning to other countries including the United States. The British have a set of TPC influences that

resulted in a civilian 'hospital ship' that the United States does not have--the oil drilling environment of the North Sea. Construction of a hospital ship for this environment is not as exciting as the preceding military story but is just as necessary.

The Culture of oil drilling is a remote, isolated and hazardous one--self reliance is regarded as a virtue. This influence is reflected in a new type of hospital ship configuration designed for the unique demands of the North Sea. Political influences were not available, as in the preceding sections, except at the most macro level. The British government is closely tied to, and dependent on, a continuous flow of oil (and dollars) from the North Sea. Therefore any measures taken to protect the oil rigs and the trained personnel who work on them has great government support.

A concrete expression of this Political and Technical support is demonstrated by the development of a Disaster Relief/Hospital Ship by SEDCO (South Eastern Drilling Company) a British government owned company. The basic ship configuration is that of a semi-submersible service vessel [Ref. 17:p. 194] with:

> . . . the idea of having a large service vessel which would have the capability of providing routine maintenance facilities as well as acting as a rescue and hospital ship in addition to coordinating any necessary disaster control.

The South Eastern Drilling Company (SEDCO) spent $40 million dollars constructing this "13,000 ton column stabilized semi-submersible utility vessel."

> The vessel has overall dimensions of 312 feet long by 249 feet wide with a main deck some 90 feet above sea level of 234 feet long by 197 feet wide. They have a distinct advantage over conventional hulls in that they are able to operate more effectively in extreme weather conditions and provide a more stable and more spacious base for operation.

The vessel can maintain its position next to an oil rig in even the roughest weather by a combination of conventional propellers, anchors and thrusters.

The medical treatment facility onboard this vessel consists of one large and fully equipped operating room, and a patient ward of permanent and folding beds for a total of 18 beds. In an emergency more beds can be added since the MTF has easy access to adjoining cabins in the vessel. The MTF also has a protable X-Ray and developing facility and laboratory facilities. Patient access is ambulatory, or by litter, or by crane which can lower patients through an access port directly into the hospital.

The medical treatment facility can also offer immediate treatment for diving accidents with a saturation diving complex that adjoins the hospital. This includes a diving bell and an emergency compression unit for treating decompression sickness. The vessel has a helicopter pad for evacuation of the most critical patients, and a boat landing area for calm weather.

H. EUROPEAN FISHING FLEETS

TPC influences result in 'hospital ships' that travel with the wide ranging European fishing fleets. Political and Cultural forces demand that health care be provided to this traditional European industry. Technical health care capabilities afloat are limited and serious emergency cases are airlifted to the nearest host country. Both West Germany and Portugal use small ships for this health care function.

The Germans have a combined hospital ship/fishery research vessel named the ANTON DOHUN that sails with this country's international fishing fleet. The source [Ref. 18:pp. 4-5] described hospital ship operations very briefly in the fishing grounds off Spitzbergen. The basic configuration is of a large modified fishing trawler. The medical treatment facility consists of: "a hospital with eight cabins, and X-Ray and dental rooms, it has a well-equipped operating and treatment room in which emergency operations can be performed."

The Portuguese have a hospital ship named the GIL EANNES, which serves their roving fishing fleet. The article [Ref. 19:p. 40] did not give the basic configuration but described it as a 'weather ship'. The medical treatment facility consists of 74 beds but can accommodate up to 320 patients in an emergency. The ship is equipped with one large operating room and three X-Ray units. It has regular hospital wards as well as an isolation section for patients with communicable

diseases. The medical staff is composed of two surgeons and three general practitioners. They work in concert with 40 male nurses stationed on fishing trawlers throughout the fleet.

I. TUBERCULOSIS HOSPITAL SHIPS

TPC influences have resulted in another type of unique hospital ship--one used exclusively by TB patients. Again, there are strong Political and Cultural pressures to take care of such afflicted patients. The Technical solution depends on a country's resources and ships available for construction or conversion. Two countries that have TB hospital ships are the Netherlands and Canada.

The Dutch Red Cross for years had chartered passenger liners, in the off season, for week long trips for long term tuberculosis patients. With funding from Dutch trade industry, and the National Emergency Fund, they built their own hospital ship. The basic ship configuration is described as a small cruise liner named the J. HENRY DUNANT. The reference [Ref. 20:p. 48] states:

> . . . this new boat which will contain among other things an examination, an isolation, and a sterilization room . . . The National Emergency Fund has stipulated that in case of emergency, the J. HENRY DUNANT, must be placed at the disposal of the government within 24 hours because she is so constructed that she can be used either as a hospital or as an evacuation ship - or even as a center for assistance and help in a stricken area. This latter use will be possible because the new ship will have a capacity to provide meals for 200 persons.

In Canada the basic ship configuration is that of a large fishing trawler. The medical treatment facility onboard provides TB diagnostic and preventive services. The ship, the CHRISTMAS SEAL, is run by the Newfoundland Tuberculosis Association and serves 1,800 ports along 6,000 miles of coast. The medical staff consists on doctors, nurses, X-Ray technicians and rehabilitation officers from the regional tuberculosis association. The source [Ref. 21:p. 123] did not go into detail about how many X-Ray machines were onboard or any other details of the medical treatment facility.

J. USSR

No survey of current hospital ships would be complete without mentioning the Russians! Unfortunately there was little information available and TPC influences that are inferred by the reader should be similar to any country that has gone through an armed conflict and found its health care capability to be lacking.

The Russians have two "OB" class hospital ships. One of the ships is named the YENISEI, the other is the OB. The ship configuration characteristics as listed in Jane's Fighting Ships [Ref. 5:p. 623] are as follows: displacement in tons: 11,000 full load, dimensions in feet: 498.7 X 20.3, aircraft: one Hormone helicopter with hanger, main engines: 2 diesels, 2 shafts with 14,000 bhp = 20 knots, range in miles: 20,000 at 18 knots. There was little

information on the medical treatment facility configuration except that each ship has up to 500 beds and has a ship's complement of 85 plus a medical staff of 200. Jane's gives the following short history:

> Built at Szcuim, Poland. OB completed in 1980 and transferred to the Pacific in September 1980. YENISEI completed in 1981 . . . The first purpose--built hospital ships in the Soviet Navy, a program which may have been prompted by the use of several merchant ships off Angola for Cuban casualties in the "war of liberation."

K. TPC ASPECTS OF HOSPITAL SHIP CONVERSION

In most of this chapter TPC influences have been discussed from a macro approach--for the most part due to a lack of research literature on hospital ships in foreign countries. Political and Cultural influences leading up to constructing or converting a hospital ship depend on each unique situation. The British have provided some important Technical influences to keep in mind when contemplating a hospital ship.

One reference [Ref. 13:pp. 72-73] noted that the British gained invaluable experience in short term conversion of civilian ships into hospital ships during the Falklands War. One individual was responsible for the design and overseeing the conversion of the SS UGANDA from an educational cruise ship to a floating hospital. This individual was Surgeon Commander Roger J. Leicaster, Royal Navy, Consultant Surgeon and Head of Surgery at the Royal Naval Hospital, Hasburg, U. K.

Any country using whatever type of ship and medical facility configuration, the following excerpt on the most important aspects to consider when a hospital ship conversion is planned is most pertinent:

1. Keep it simple. It is not possible to recreate the operating and medical care facilities available in a land--based hospital. Recognize this fact and be prepared for some different arrangements of facilities.

2. The personnel are central to the success of the unit. Wherever possible, the surgical and nursing teams should be allowed to train and get to know each other BEFORE they need to function under battle or disaster conditions.

3. One hospital ship will probably not be enough, particularly in island countries. In addition to ambulance ships for transporting wounded to and from the floating medical facility, more than one hospital ship may be necessary. This is particularly true in conditions where a utility ship--such as an LST is used. Under surprise conditions, such as natural disasters, the ship may be several thousand miles away performing its standard naval function. Unless a second ship is closer and available for medical use, days of precious time will be lost while the vessel is being moved into the disaster areas.

4. Every detail of the ship must be known before the conversion is attempted. One must make certain the space available is suited for patient care, and that movement of wounded and supplies is possible in the areas defined.

5. Equipment must be able to withstand marine conditions. For example, sterilizers and X-Ray processing equipment must be able to function on a ship rolling at sea. Many designs do not: a few do.
6. Re-supply procedures must be preplanned in a practical way and given priority.

7. Planners must remember that a flow of injured--on and off the ship--is necessary. It is not enough to plan how to get wounded men to the floating

> hospital. In order to provide room for treatment of a maximum number of casualties, arrangements must be made to move treated cases from the ship as soon as it is safe to do so.

L. SUMMARY

This chapter has attempted to show the diversity and inventiveness of foreign countries in meeting their wartime and peacetime 'hospital ship' needs. TPC influences in such cases can usually be viewed only from a macro perspective, as opposed to a more micro approach used in discussing the current American hospital ship program in the next chapter.

Cultural influences in each nation mean taking care of wartime injuries and potential civilian casualties. This is often translated into Political demands that a hospital ship be built or converted from an existing vessel. This is usually done on a last minute basis, particularly if a war is imminent.

Technical influences are not only determined by a nation's industrial and health care capability, but also by the use to which a hospital ship will be put. The design and capability of a hospital ship in servicing a fishing fleet or TB population is obviously going to be much different from a hospital ship used in a war zone. In each of the examples in this chapter survey there were unique Technical, Political and Cultural influences at work. Each combination of TPC influences resulted in the configuration of the hospital ship achieved. The question of how well these TPC influences were

managed and used in attaining the final configuration, can only be answered by those individuals involved in each nation's hospital ship project.

IV. HISTORICAL EVOLUTION OF THE 1980'S HOSPITAL SHIP PROGRAM

A. INTRODUCTION

This chapter will outline the history of the 1980's hospital ship project, from project initiation to actual deployment of a completed hospital ship. The purpose of this chapter is to gain a microperspective of the role of TPC influences in a hospital ship construction project. As mentioned in the introduction, a health care manager must first recognize TPC influences and their interrelationship with one another. The manager can then take action to utilize change mechanisms to manage the individual TPC influences. Technical and Political influences are frequently detailed but Cultural influences remain, for the most part, unstated. This is due to the reluctance of sources of information to discuss 'on the record' military health care attitudes versus military shipbuilder attitudes in the construction of the world's first 'supertanker' hospital ships.

B. TECHNICAL ASPECTS OF THE HOSPITAL SHIP PROJECT

The technical influences in the hospital ship are perhaps the most obvious. The TPC Model [Ref. 1:p. 8] defines the Technical system as a technical design problem where the: Organization faces a production problem. Social and technical resources must be arranged to produce desired

output." The organization responsible for the construction of the hospital ships is the Naval Sea Systems Command (NAVSEASYSCOM). Tichy [Ref. 1:p. 9] is speaking of an organizational entity like the NAVSEASYSCOM when he writes:

> All organizations face a production problem. That is,in the context of environmental threats and opportunities, social financial, and technical resources must be arranded to produce some desired output.

There are many technical influences in the hospital ship project which represent the varied agencies involved in the construction.

First of all is the conversion of two supertankers into hospital ships--something which has never been done before. Described briefly in Chapter Four are the innovative methods of reconstructing the ship, particularly the medical treatment facility. The major technical 'players' in the project are the National Steel and Shipbuilding Company (NASSCO), Supervisor of Shipbuilding (SUPSHIP) San Diego, Naval Sea Systems Command (NAVSEASYSCOM), Military Sealift command (MSC), Naval Medical Command (NAVMEDCOM), and the Surgeon General of the Navy. The last two agencies are the primary Technical input for the medical equipment and the design of medical spaces within the medical treatment facility.

Other technical influences come on line during the testing and inspection phases of the project. Most notable is the Board of Inspection and Survey (INSURV) in conducting

their inspection. There are some competing technical influences from the American Bureau of Shipping Standards, and United States Coast Guard Standards which were primarily used in building the two hospital ships. The Ships Parts Control Center, PA, provided technical input, particularly on the logistics side of the project. Additional Technical input was provided by the Navy Medical Material Support Command, particularly in regard to the purchase of medical equipment.

C. POLITICAL ASPECTS OF THE HOSPITAL SHIP PROJECT

In addition to those agencies mentioned in the preceding section, other interested parties were: the White House, U. S. Congress, the Office of the Secretary of Defense for Health Affairs, Chief of Naval Operations, the Secretary of the Navy, the Defense Secretary, the media, and the general public. Many of the agencies in this section exerted political influence of varying degrees when the decision was reached to send the USNS MERCY to the Philippines.

Tichy states:

> All organizations face the problem of allocating power and resources. The uses to which the organization will be put, as well as who will reap the benefits of the organization, must be determined. Decisions around these
>
> issues get reflected in . . . budget decisions, and the internal power structure of the organization. [Ref. 1:p. 10]

One of the mixed blessings of the hospital ship project has been the high visibility and 'command attention' from

numerous flag officers and high ranking civilians. This has most often manifested itself in extensive media campaigns and frequent tours by flag officers/civilians representing the aforementioned agencies as well as flag officers from the 'line Navy.'

In this area of influence, the political pressure for a specific configuration change may be easily identified but [Ref. 1:p. 10] "the concepts and language are less formal and often less obvious." Many political observations were made to the researcher but most 'were off the record.' In every case of configuration change there was at least a superficial Technical reason to justify it. The trick for a health care manager in a construction scenario is to first identify the Political influence, and then try to mitigate or manage the Political pressure to the 'best' advantage for the project.

D. CULTURAL ASPECTS OF THE HOSPITAL SHIP PROJECT

There are also many unique cultural influences in the hospital ship project, particularly in the military culture and medical culture influences. What is a Cultural influence? Tichy states [Ref. 1:p. 10]:

> Organizations are in part held together by a normative glue that is called culture. Culture consists of the values, objectives, beliefs, and interpretations shared by organizational members. One of the most important and most difficult tasks of top management is to decide the content of the organization's culture, that is, to determine what values should be shared, what objectives are worth striving for, what beliefs the employees should be committed to, and what interpretations of past events

and current pronouncements would be most beneficial . . .

This aspect of the TPC model may be the most foreign to the reader but it has had an effect on the evolution of the hospital ship configuration and in the continuing configuration control effort. The deployed hospital ship will have a mix of military, medical and civilian cultures aboard it. The hospital ships were built by a civilian shipyard while the contract was administered by a military agency. The deployed hospital ship, USNS MERCY, was crewed and captained by civilians of the Military Sealift Command, her medical contingent was a tri-service DOD and Public Health Service effort, her funding came from OPNAV while her operational control was under the Pacific military command structure.

Speaking in generalities, American's have a love for the biggest and the brighest of anything in the world. Although all the initial design initiatives were big ships, it is ironic that a supertanker was selected for the hospital ship conversion which resulted in the largest hospital ships in the world. The medical culture manifests itself in the desire to have the 'latest' technology onboard, also usually the largest and most expensive equipment available. The

decision to add CAT scanners to the hospital ships so late in the contracting process could be interpreted as another manifestation of the cultural aspect of the TPC model. Military culture is perhaps best demonstrated by the Board of Inspection & Survey with their emphasis on Military Standards during their inspection--on a ship built primarily to American Bureau of Shipping Standards, and U. S. Coast Guard and Military Sealift Command standards.

E. PROJECT INITIATION TPC INFLUENCES

Hospital ships have been used in one form or another so nothing is new about the overall concept. With one exception (the USS RELIEF in 1920) all hospital ships in the past have been converted from liners, freighters and troop transports [Ref. 22:p. 32]. With the decommissioning of the last Vietnam-era hospital ship in 1974 (USS REPOSE) the United States had no dedicated hospital ship capability in existence until the USNS MERCY sailed for the Philippines on 27 February 1987.

In the late 1970's the U. S. Marine Corps determined that "a significant deficiency exists in medical support for amphibious operations" [Ref. 23: p. 11]. To determine the magnitude of this need a study was commissioned by the Chief of Naval Operations and conducted by the Naval Medical Command. This study evaluated all alternatives to dedicated hospital ships.

criteria, select one or more alternatives to overcome earlier identified medical deficiences. Ten years later, the same deficiences exist according to an internal Department of Defense study prepared in June 1984 [Ref. 23:p. 22]. That study found the readiness of existing medical units (in the Pacific Command) is low and that "the medical assets designated for the Pacific could not be activated in time to meet wartime needs."

On February 1979 the following alternatives were offered for consideration by the U. S. Navy and U. S. Marine Corps as illustrated in Table 1.

TABLE 1

ALTERNATIVE ONE: New Construction Commercial Ship (NCCS)

Type of Ship - Container capable
- Relocatable structures capable
- Modular capable

Method of Acquisition - Subsidy
- Build and charter

Ownership - Commercial with contingency guarantees

ALTERNATIVE TWO: Dry Cargo Ship (DCS)

Type of Ship - Existing - container ship
- RO/RO (Roll-On/Roll-Off)
- Barge Carrier
- LASH (Lighter aboard ship)
- SEABEE (Type of self loading barge)
- Seatrain

TABLE 1 (Continued)

Method of Acquisition - Lease

Ownership - Commercial

ALTERNATIVE THREE: Passenger Ship (PS)

Type of Ship - Inactive Passenger Ship

- Inactive Passenger/Cargo Ship (Ferry)

Method of Acquisition - Lease

Ownership - Commercial

ALTERNATIVE FOUR: U. S. NAVY SHIP (USNS)

Type of Ship - Inactive Ships - LST-1173
LSD-28
TAP
CV

- Active Ship

Method of Acquisition - Existing

Ownership - Navy

[Ref. 22:p. c-4]

Among the final recommendations of the ADHOS four hundred page study was: 1) designating the Chief of Naval Operations as sponsor of a hospital ship project. 2) designating the aircraft carrier (training) or one or more dry cargo ships as hospital ships during wartime and 3) utilizing the SS UNITED STATES, a laid up civilian passenger liner, as a rapid deployment hospital ship. It is interesting to note that Technical influences can change so rapidly that supertankers were not considered as possible hospital ship platforms less than ten years ago.

F. POLITICAL INFLUENCES

According to the project manager [Ref. 24] for the hospital ship program, the initial contract process began in September 1980. The Department of Defense directed the Navy to develop a budget estimate and a schedule to convert the passenger ship SS UNITED STATES to a two thousand bed hospital ship.

This alternative is important because it sets the financial baseline for the present hospital ship program. DOD Secretary Brown next submitted a figure of $450 million in an amended program decision memorandum (PDM) through the Office of Management and Budget for the fiscal year 1983 budget. A few months later OPNAV tasked NAVSEA to develop alternatives to the SS UNITED STATES. It is revealed in another reference [Ref. 25:p. 1] that the political push for the passenger ship was actually coming from then Assistant Secretary of Defense for Health Affairs, Dr. John H. Moxley. He advocated this vessel because: "it is the only ship found so far which can provide the stated requirement for beds and operating rooms at a reasonable cost and within a reasonable time frame."

There were many different opinions about the project from the very beginning. The Defense Resources Board (DRB) wanted to support the newly formed Rapid Deployment Force (RDF) as quickly as possible but had no objections to examining other alternatives. The Navy Surgeon General at the time, Vice

Admiral J. William Cox, wanted to utilize the USS SANCTUARY, at that time a dependent support vessel docked in Philadelphia. Secretary of Defense, Casper Weinberger, said he wanted to have a hospital "ready to go in 1984." OPNAV opposed both the SS UNITED STATES and USS REPOSE alternatives on grounds of inadequacy in "stated requirements for beds and operating rooms at a reasonable cost and within a reasonable time frame."

G. TECHNICAL INFLUENCES

Another reference [Ref. 25:p. 5] also mentioned controversy on the financial end of the project. DOD tried to move up the funding from fiscal year 1983 to 1982. In considering the budget request for DOD the Senate deleted funds for converting a hospital ship while the House voted to provide the money. The Deputy Defense Secretary, Frank C. Carlucci, lobbied the House/Senate conference committee and eventually got the funds restored.

In January 1981 the Assistant Secretary of the Navy, Shipbuilding and Logistics (ASN (S&L)) directed that NAVSEA "lobby" the private sector to develop alternatives. This first request for proposal (RFP) spelled out the RDF requirements for medical support. [Ref. 26]

Potential contractors submitted "rough form" proposals due to lack of detailed specifications from the Navy and the short time (5 months) they had to prepare [Ref. 26]. In June

1981 OPNAV Code 04 completed a preliminary review of NAVSEA proposed alternatives based on the preliminary proposals made by private industry. OPNAV 04 determined that the proposed alternatives were not necessarily better than conversion of the SS UNITED STATES.

In July 1981 [Ref. 26] OPNAV again tasked the Military Sealift Command (MSC) to solicit proposals from industry. This decision was made because industry was proposing to convert/build and charter. At this time the first (of four) Circular Of Requirements (COR) was published. A COR lists all medical and technical requirements needed for the hospital ship. This was a joint effort between the NAVSEA 03 medical liaison officer and the Surface Medicine Code of the Bureau of Medicine and Surgery (now called COMNAVMEDCOM). In August this COR was approved by OPNAV 04 and released to industry as part of the MSC RFP process.

In September 1981 another 'twist' occurred in the contracting process. OPNAV redirected management of the hospital ship program to NAVSEA. It was not clear from an interview with the hospital ship project manager [Ref. 26] why the occurred. NAVSEA notified the industry of the new 'management change', conducted an industry briefing and issued an amendment to the original RFP issued by the MSC.

In December 1981 the preliminary industry data was received and submitted to a NAVSEA Ship Acquisition Improvement Panel (SAIP) decision process. The SS UNITED

STATES was still under consideration at this point. The Deputy Secretary of Defense reviewed the results of the SAIP and decided on a construction or conversion of a "new" hospital ship instead of the SS UNITED STATES. This office also set the program procurement cost at $560 million.

H. TPC INTEGRATING MECHANISMS

Integrating mechanisms [Ref. 1:p. 212]:

> represent the means by which the organization achieves coordination and control over its tasks and people. The mechanisms vary in their capacity to process information, and in how simple, how complex, and how costly their use may be." . . . "There is a considerable range of integrating mechanisms. The technical organizational design problem is to match low uncertainty with simple and cheap mechanistic integration devices and to save the expensive, complex devices for those situations with high uncertainty. Complex devices are appropriate when there are high information-processing requirements and complex interdependence.

Configuration Management (CM) contains most of the integration mechanism mentioned by Tichy [Ref. 1:p. 213]. Tichy uses John Galbraith's "categorization scheme for integrating mechanisms" proposed in his 1973 book Designing Complex Organizations. CM in it's most basic administrative procedures contains the simple integration mechanisms of rules and programs, hiearchy of authority and goal setting and planning. CM is weaker on integration devices which decrease the need for information processing. One of the purposes of CM is to communicate and process large amounts of information. The management structure of the Naval Sea Systems Command and its shipbuilding proxy, the Supervisor of

Shipbuilding-San Diego, provides for the creation of these self-contained subunits. The Medical Liaison Officer and his department are a prime example of this.

The Naval Sea Systems Command utilizes complex integration mechanisms such as vertical information systems and lateral relations. This is again done through CM procedures to increase information-processing capacity and to force communication between the government (NAVSEA) and the prime contractor (NASSCO). Most of the lateral relations used to decentralize the decision making load are used in CM procedures at the SUPSHIP-San Diego level. Examples are direct contact (sea trials), liaison roles (Medical Liaison Officer), task forces (Military Sealift Command), teams (special NAVSEA management and engineering teams) and occasionally a modified matrix approach. The matrix is more often found in higher level NAVSEA management structures than in frontline shipbuilding organizations.

In January 1982 NAVSEA began 'Phase I' of their source selection process. The source selection organization consisted of fifty-eight members headed by NAVSEA Code 91 as the source selection authority. There were three primary teams within this organization:

1. The Definitive Care Facility Evaluation Team which consisted of ten members from COMNAVMEDCOM.

2. A Ship Characteristics Evaluation Team composed of fifteen engineers form NAVSEA and MSC and,

3. A Schedule/Management Evaluation Team with seven NAVSEA management specialists.

The first team represents a panel of experts from the Naval Medical Command who provide detailed technical advice on all medical spaces aboard the hospital ship. The second team consists of the Navy's shipbuilding experts from the Military Sealift Command and the Naval Sea Systems Command. They design and engineer the entire hospital ship including the main parameters of the medical treatment facility. The third team schedules the actual construction of the hospital ship and monitors the schedule through the Supervisor of Shipbuilding (SUPSHIP) San Diego. The management specialists can also act to resolve any disputes between the first two teams.

These various teams in turn reported to the NAVSEA Contract Award Review panel (CARP) which consisted of six members including the NAVSEA medical liaison officer. This panel had the responsibility to coordinate and evaluate the reports from these three teams and separate Cost Evaluation Team. The CARP's findings were then presented to a Source Selection Review Board which consisted of seven senior personnel from OPNAV, COMNAVMEDCOM, NAVMAT, MSC and NAVSEA. This Review Board was responsible for providing the recommendations for award to the Source Selection Authority. Between February and May [Ref. 26] twelve proposals from eight offerors were received and evaluated. Best and Final

Proposals were then requested from five offerors. The actual selection criteria are contained in a "business sensitive" Source Selection Plan (not available to the author). Such a plan consists of a matrix with ratings, rankings and weights applied to each proposal. The objective is to look for 'natural breaks' in the ratings. The final five were again subjected to the rating matrix and two finalists were picked.

I. POLITICAL INFLUENCES IN THE CONTRACTING PROCESS

With the contracting process grinding slowly away, political interest (and controversy) continued in Congress [Ref. 27:p. 1]. The Assistant Secretary for Health Affairs had to "admit" to the Senate Armed Services manpower and personnel subcommittee that the project had "slipped a year". Senator Roger w. Jepson (R. Iowa) objected to this news and when informed that the U. S. would have top convert passenger ships on short notice (like the British in the Falklands War) if there was a war, responded that this was "most unacceptable" [Ref. 27:p. 1]

The Navy Surgeon General at the time, Vice Admiral J. William Cox, also admitted there was a large medical support gap that was only partially filled by such stop gap measures as deployable madical support units (MMART's) and the upgrade of medical spaces on amphibious ships (i.e. LHA's). When Senator Jepson suggested the problem had been not only neglected, but "ignored completely" by the Navy, Dr. Cox

responded that it was his feeling the issue continually ended up in the "too hard basket" [Ref. 27:p. 4]. In another interesting exchange Senator Jepson asked, "It currently takes 21 months to de-mothball and convert a battleship. It takes 3 years to build a nuclear attack submarine. How can it take 4 years to convert a hospital ship?" Dr. Cox blamed the problem on "the low priority that the hospital ship (program) had received in Congress, as well as in DOD". The controversy over the Navy's handling of the design and purchase of a hospital ship prompted a General Accounting Office investigation.

In July 1982 [Ref. 24] contracts were awarded to APEX Marine Corporation and Prudential Lines, Inc. for contract design. APEX Marine Corporation was owner of the two San Clemente Class supertankers which they proposed for conversion to hospital ships. APEX entered into a 'Team Arrangement' with National Steel and Shipbuilding Company (NASSCO) of San Diego, California. The other design contract went to Prudential Lines, Inc. which owned two LASH (dry cargo) vessels and had a 'Joint Venture' company with Maryland Shipbuilding and Construction Company, Baltimore Maryland.

J. TECHNICAL INFLUENCES IN THE CONTRACTING PROCESS

In the last six months of 1982 the original COR went through three major revisions before it was finally released

for the design competition. However, in January 1983 the Navy changed the rules in the middle of the game. Mr. Sawer (ASN, S&L) suddenly decided that the two finalists would be in a strict cost competition instead of the originally planned design to cost competition. According to NAVSEA, [Ref. 24] contractor teams screamed about the change of rules but Mr. Sawer stood firm. Both finalists had to completely rework their proposals for the Phase II Evaluation process.

Between January and July the following actions took place:

1. a Phase II RFP was issued,
2. Phase II Source Selection Plan was approved,
3. proposals were received,
4. preliminary evaluation was completed,
5. requests went out for Best and Final Offer,
6. requests were received and
7. an evaluation was completed.

At the end of June 1983 a Firm Fixed Price contract (with Economic Price Adjustment) was awarded to NASSCO.

K. POLITICAL INFLUENCES IN THE CONTRACT AWARD

In September PMJVC filed suit in U. S. District Court for the District of Columbia seeking to overturn the award, another Political controversy for the hospital ship project. During House and Senate appropriations committee debates on the fiscal year 1984 appropriations bill an attempt was made

to delay funding for the awarded contract. Representative Steny Hoyer (D., Maryland) wanted the Navy to respond to charges of improprieties made by lawyers for the unsuccessful bidding team.

Then Secretary of the Navy, John Lehman, issued a point by point defense and stated, "the contract selection process was properly and professionally conducted and the issues raised by the unsuccessful offeror . . . without substance" [Ref. 28:p. 1]. Both Appropriation committees accepted the defense and approved funding for the project. In June 1984 a summary judgement was issued in favor of the U. S. Navy. PMJVC appealed that month to the U. S. Court of Appeals for the District of Columbia. In November 1984 PMJVC withdrew their appeal. The action was withdrawn because NAVSEA had been more than fair to the unsuccessful team [Ref. 26]. The last evaluation process consisted of each contractor submitting three envelopes: a cost proposal, a design proposal, and contract enhancements. The winning team was lowest in cost and closest to the COR in all three evaluations. This was done even though only the first envelope was required to be opened and evaluated.

L. PRODUCTION TPC INFLUENCES

In one sense the production of the two hospital ships actually started in 1976 when the National Steel and Shipbuilding Company (NASSCO) built two "90,000 deadweight-

ton supertankers to haul Mideast crude oil through the Suez Canal" [Ref. 29:p. 1] These two ships were actually in service until the worldwide surplus of oil forced them into early retirement.

In 1983 NASSCO won a $400 million contract to convert the two ships to hospital vessels. From that time to the present the Navy has spent another $110 million to outfit the ships with the latest medical equipment. To support the proper procurement and placement of the $110 million investment the Department of the Navy (DON) and the Commander, Naval Medical Command (NAVMEDCOM) has relied upon a plethora of medical specialists and ship building specialists to advise the contractor on the hospital ship project.

A list of the primary players includes: 1) Naval Medical Command Medical Doctrine Center and Surface Medicine Code, 2) Medical Construction Officer T-(AH) Project, 3) Supervisor of Shipbuilding - Conversion and Repair, 4) Naval Sea Systems Command, 5) NAVSCO New Construction Project Officer, 6) Navy Medical Command, and 7) the Military Sealift Command.

M. MILITARY SEALIFT COMMAND AS A TECHNICAL INFLUENCE

The Military Sealift Command, which will operate the USNS MERCY and USNS COMFORT after contract delivery, has played an essential advisory role during the Production Phase which leads naturally to the Deployment Phase. The MSC has a construction representative assigned to the T-AH project at

NASSCO, to work closely with the commanding officer of the USNS MERCY.

The MSC master is Capt. Hosey who has 34 years of experience in the MSC Pacific Region. He sums up his view of the production phase:

> This can be a frustrating time for those of us who will crew the ships. Someone else is administering the shipbuilding contract for a vessel we have to sail, and we have little say over how the ship is built or converted. We are trying to identify all the deficiencies of the ship which must be corrected before we sail, and those that can be deferred. [Ref. 29:p. 2]

The MSC has an ongoing relationship with the hospital ships throughout the production phase of the program. In an interview with the MSC Construction Representative (CONREP) [Ref. 30], the involvement was found to be comprehensive. The first function of the CONREP is to represent the Commander, MSC, Washington, D. C., as an on-site survey and engineering office. Such CONREP offices are located at any shipyard where vessels will pass into MSC control.

The CONREP is under temporary duty (TEMDU) to SUPSHIP, San Diego. The main role is as technical advisor on conversion apsects of this project to bring the hospital ships into compliance with MSC rules and regulations. The CONREP office is composed of five people and is closely involved with the various trials and testing of the hospital ships. An example of CONREP involvement would be the check off of a 'Test Memorandum' for each piece of hull and deck equipment on the USNS MERCY. Such equipment might be

lifeboats and cranes on the ship. These checks are prior to the first sea trials.

The first sea trial is called a Builder's Trial and lasts about two days. The general procedure is for personnel from the CONREP office to write up Trial Cards on all discrepancies found during the Builder's Trial. A screening conference, another integrating TPC mechanism, is held in part with CONREP and SUPSHIP personnel and representatives from the contractor, in this case National Steel. The cards are assigned to government or contractor responsibility to repair or construct an item. If the area is uncertain it undergoes government investigation until a decision is reached. If the contractor feels a decision has gone against him unfairly they can appeal through SUPSHIP and NAVSEASYSCOM chain of command. If the decision favors the contractor, and the work must be done to meet MSC regulations, a Field Modification Request is filed by the MSC CONREP with SUPSHIP so that a price can be negotiated with the contractor to perform the work.

The second sea trial is called an Acceptance Trial and is conducted in concert with a Board of Inspection and Survey (INSURV) Team from Washington, D. C. This agency has a statutory responsibility to inspect all newly constructed USS and USNS vessels initially and approximately every three years afterwards. This trial can last less than two days and the procedure is the same as in the first sea trial except

preprinted forms called TWO-KILOS are used as inspection cards. These cards must be filled out in a prescribed and detailed manner using a rank/order system from life threatening to routine.

The third and final Acceptance Trial is actually conducted during the deployment phase of the hospital ship. This trial is conducted at the end of the Guarantee Period, which in this case is eight months. This action will occur as the USNS MERCY steams back from its humanitarian mission to the Philippines. The trial will consist of the same process and the first two times except that the trial cards will be called Government Action Cards. These various inspection cards used in the three different sea trials are important because they formally document the various Technical and Political influences between agencies involved in the testing and evaluation of the hospital ship. The cards are the focus of intense bargaining and negotiation at the various screening conferences where competing agency TPC influences are resolved. During the last of the three sea trials the overall grading during these trials is not done as a tactical warship but as a hybrid or USN, INSURV, MSC and Coast Guard standards, many of which conflict with each other and must be reconciled after each trial.

N. SUPSHIP SAN DIEGO AS AN INTEGRATING MECHANISM

SUPSHIP, the Supervisor of Shipbuilding, Conversion and Repair, San Diego, plays a most important role in the hospital ship program. SUPSHIPs are located at all shipyards [Ref. 31] where ship repair, conversion or construction is being conducted on government contracts. The SUPSHIP in San Diego is the largest because of the amount of ship construction taking place there.

SUPSHIP is foremost a contracting organization. It administers the government contract with the prime contractor, in this case National Steel. SUPSHIP prepares contract specifications, oversees a design section and conducts constant quality assurance on the project. Although numerous other agencies are involved on the project, everyone must go through SUPSHIP to request contract modifications or to have the contractor do any kind of work. All the various players in the project understand this, especially National Steel.

SUPSHIP is an organizational entity under the Commander, Naval Sea Systems Command which gained importance after the demise of U. S. Navy Shipyards. SUPSHIP is actually the third and highest level of ship maintenance activity in the Navy--the first two levels are shipboard activity and SIMA (an intermediate level maintenance activity dealing with relatively simple projects).

There are actually two relatively independent sections [Ref. 32] under the SUPSHIP organizational umbrella. One is the Repair Section which is supervising other ship repair projects at National Steel. The other section is New Construction whose only project is the hospital ship program. SUPSHIP reports to Code PMS 363-Auxillary and Special Mission Ship Acquisition Project. This code reports to the Deputy Commander of the Surface Ships Directorate, SEA 91. Code SEA 91, also called DEPCOM Surface Ships, reports directly to Vice Commander and Commander, Naval Sea Systems Commmand Headquarters.

O. THE PROJECT MANAGEMENT OFFICE AS AN INTEGRATING MECHANISM

The Project Management Office (PMO), located in Washington D. C. at the Naval Sea Systems Command, is the main controlling and integrating mechanism for TPC influences within and without the hospital ship project. The PMO employs approximately sixty-five people and oversees up to twenty-two programs at any one time, of which the hospital ship program is one. The three teams mentioned earlier in the chapter all operate within the authority of this office. Configuration Management (CM) procedures, discussed in the next chapter, are the primary change mechanisms used to manage external and internal TPC influences exerted by the various agencies involved in the project. For example, the hospital ship Program Engineer [Ref. 33] stated that all

major modifications must be approved by this office but that routine modifications can be approved by SUPSHIP San Diego.

P. THE MEDICAL CONSTRUCTION OFFICE AS A TECHNICAL INFLUENCE

The Naval Medical Command also has an on-site representative for technical input. The individual [Ref. 34] is a Medical Service Corps officer designated as the Medical Construction Officer, T-(AH) project, who works for SUPSHIP, Conversion and Repair, San Diego. The Lieutenant-in-charge heads an office composed of two officers and five enlisted personnel. The enlisted personnel are hospital corpsmen (independent duty and biomedical repairmen) and one dental technician.

The officers and enlisted personnel are constantly crawling through the medical and dental spaces aboard the ships, reviewing drawings and specifications, and observing the installation of equipment in these areas. This on-site inspection has resulted in numerous contract modifications by SUPSHIP.

The ongoing hospital ship program is helped because the suggestions are made by the type of Medical Service Corps Officers and enlisted ratings who will work on the hospital ship during deployment. Frequent visits by medical and dental officers from NAVMEDCOM also result in suggestions for equipment modification and placement.

Actual production of the two hospital ships started with a simple fact--no one had ever turned a former supertanker into a hospital ship. The SS WORTH became the USNS MERCY, and the SS ROSE CITY became the USNS COMFORT. One reason supertanker hulls were selected (besides cost competition) is that "Navy ship designers say (such hulls) lend themselves well to the needs of massive floating hospitals. They cite the designs inherent stability and low center of gravity, resulting in a unique anti-roll feature." [Ref. 35:p. 32]

Each ship is 894 feet long. The largest of the supertankers are over 1,244 feet long and an idea of size can be gained by the height of the Empire State Building which is 1,250 feet high [Ref. 36:p 383]. Although the hospital ships are not built from the keel up, they come close! First the deck was removed from the supertanker leaving only the shell, engine room and athwartship watertight-bulkheads intact [Ref. 37:5]. Then 3,200 tons of steel and over 13 miles of piping were removed from each ship.

One source [Ref. 37:p. 7] states that U. S. shipyards have lost their competitive edge and have been forced to reimport shipbuilding technology that the Japanese have improved on. The new technology involves using modular, mass production methods. One method is called the "on unit concept" in which [Ref. 37:p. 9] an entire unit of equipment is made outside the ship and then placed in the hull and welded to a deck.

> In the on-block concept, several units with foundations are welded to a single deck section off ship. Other units and deck may be welded on top of the first, and then the entire block is hoisted into the hull for installation [Ref. 37:p. 9].

The "on-board" concept means that the installation takes place with the ship. These blocks are constructed with ample workroom and ventilation and greatly increased safety. They are usually constructed upside down which helps the welds to flow by taking advantage of gravity.

> Using the blue sky concept [Ref. 37:p. 10], blocks below the waterline are constructed and installed first, then any associated equipment not installed at the on-block stage is landed on the ship prior to the installation of the deck or block immediately above.

The traditional method was much more complex and costly. It involved building each room inside the ship including all electrical, piping and vent systems. Thus the actual production of the hospital ships has been as unique as the supertanker/hospital ship concept.

Q. NAVAL MEDICAL MATERIAL SUPPORT COMMAND AS A TECHNICAL INFLUENCE

The Naval Medical Material Support Command, Fredrick, MD has played a significant role as the primary outfitter [Ref. 38] for all medical government furnished equipment (GFE). There are two categories of medical GFE onboard the hospital ships. They are called Authorized Medical Allowance Lists (AMAL's) and Authorized Dental Allowance Lists (ADAL's).

Approximately $30 million has been spent on each hospital ship on items ranging from medical consumables to

medical/dental x-ray equipment. GFE is established on the hospital ships in three ways; through the AMAL/ADAL lists, mission specific needs (i.e. humanitarian cruises), and shipboard medical staff requests.

As a current example of this process the USNS MERCY mission to the Philippines provides a good example. The AMAL/ADAL lists are based on a wartime shock/trauma unit basis. GFE such as pediatrics equipment and items for large scale immunization programs have been added that were never initially considered for a hospital ship operating in a war zone. The acquisition cycle for these items has been running 90-180 days. GFE is purchased primarily stateside but many items have come from around the world.

Contingency support will be provided to the hospital ships through regular OPN (Other Procurement, Navy) procedures as the equipment life cycles for medical and dental items expire. Ongoing research continues to find the best equipment suitable for the hospital ship mission in the unique demands of the afloat hospital environment.

R. DEPLOYMENT PHASE TPC INFLUENCES

The deployment phase of the hospital ship program has proven to be an interesting one from a political standpoint and from the switch in original intentions. The hospital ships after construction and sea trials were initially scheduled to go into a AReduced Operating Status (ROS) [Ref.

39:p. 25]--basically a caretaking status until mobilized on a wartime or national disaster contingency basis.

The idea for some type of humanitarian mission evidently originated with Assistant Secretary of Defense William Mayer in late 1985 [Ref. 40:p. 8]. Dr. Mayer thought the United States and its Navy could "show the flag" in Third World ports around the globe to conduct Project Hope type projects. This would essentially involve large scale immunization and public health programs in various countries. One way of doing this would be to carry a Fleet Hospital onboard to deploy at each visit.

Another idea of Dr. Mayer's would use [Ref. 41:p. 9] the hospital ships:

> as sort of a major worldwide continuing education process. When they are near a first world country like Scotland, we could conduct jointly with the University of Edinburgh and some civilian universities in this country really massive graduate education programs on disaster medicine, one of the world's great needs today.

The first mention of a humanitarian mission to the Philippines [Ref. 41:p. 4] originated with the White House. It was mentioned as primarily a preventive medicine program to be funded from $10 million in emergency aid authorized for the Philippines by President Reagan. This source mentions that there are not many ports in the Philippines which can handle a supertanker sized hospital ship. As mentioned earlier a helicopter support squadron will probably have to

be deployed with the ship since the USNS MERCY has limited capacity to transfer patients from the sea.

A related Political influence and side effect of this mission was the Navy's assurance that the deployment "will have no impact on the availability of care in Stateside military facilities" [Ref. 42:p. 25]. The Navy did admit that the availability of inpatient care might slow down. With all the problems Navy medicine has had lately this announcement did not sit well with many military special interest groups. This is the reason DOD has made the mission a tri-service effort with Reserve augmentation [Ref. 42:p. 2] whenever possible.

Dr. Mayer disagreed with the Navy's plans [Ref. 42:p. 2] for the hospital ships after the humanitarian deployments. He still wants a continuing deployment of some type for the hospital ships. The biggest obstacle to this idea is the funding situation, and the problems of manning the vessel in peacetime. But this Political infighting, with White House involvement, shows how the original idea has evolved from the original ROS status. A humanitarian mission is also planned for the USNS COMFORT in the Atlantic Basin.

Depending on the degree of success of the Philippines mission we just might see many more deployments of the hospital ships. A Political influence can be found with the Cubans. They not only deploy military personnel in the countries they assist, but also many health care personnel

such as doctors and nurses. In many such cases these countries have limited medical expertise and this goes quite a distance in winning hearts and minds. The author thinks Dr. Mayer summed up the situation quite well [Ref. 42:p. 2] when he said: " . . . a great big white ship with a red cross and the American flag is a whole different message than a battleship."

S. NAVAL MEDICAL COMMAND TPC INFLUENCES

The NAVMEDCOM code concerned with Surface Medicine has played a key role in the production and deployment of the two hospital ships. An interview with CAPT Hooper [Ref. 43] revealed the uniqueness of the hospital ship program. He mentioned that there are four key players in the ongoing deployment of the USNS MERCY. The agencies and their roles are:

1. OPNAV 093 and 42 - Resource Control
2. CINCPACFLT - Operational Control
3. MILITARY SEALIFT COMMAND - Administrative Control
4. NAVAL MEDICAL COMMAND - Technical Control

Surface Medicine has served as the primary liaison with the Naval Sea Systems Command which has overall control of the building of the hospital ships through its PMO and subordinate offices. This Code provided detailed Technical advice on medical and dental issues dealing with space design and construction, equipment, supplies, manning, and

inspections. During the recent operational demonstration of the USNS MERCY this Code conducted a simulated patient flow from the helicopter landing pad through surgery, post op and genral ward placement.

One noticeable problem identified on the MERCY, was the lack of patient access by small boats. The main transfer point is by helicopters and reflects a historical bias from the Vietnam War. Both the USS SANCTUARY and REPOSE were fully supported by helicopters to deliver patients and rarely received patients from another ship. CAPT Hooper agreed with the author that all options should be covered and that a future modification of the hospital ships will involve the installation of an access port to solve this problem.

The Naval Medical Command, Contingency Planning Code is responsible for the staffing of the hospital ships in port and on deployment. Although the current humanitarian mission of the USNS MERCY to the Philippines is a tri-service/civilian effort, the majority of the personnel will be composed of U. S. Navy personnel. The proposed ship's complement will look like this:

Ship Operational Personnel	
MSC Officers	14
MSC Crew	54
Total Civilian	68
Medical Staff	
Senior Officers	9
Other Officers	250
C1#s	31
Other Enlisted	530
Medical Support	
Officers	12

CPOs	18	
Enlisted	342	
Communications		
Officers	1	
CPOs	1	
Other Enlisted	13	
Total Military	1,207	[Ref. 43]

The COMFORT is scheduled to make a humanitarian cruise in Atlantic waters in late 1987. During wartime, medical Navy reservists will fill many of the billets now being filled by active duty personnel on the humanitarian cruises.

T. SUMMARY

This chapter has attempted to document the various TPC influences involved in the hospital ship project initiation, production and deployment phases. Each of the agencies involved exerted their particular Technical and Political influences, and to a much lesser extent, Cultural influences. Although the Technical and Political influences are readily identifiable to the reader, the Cultural influences are not. Since sources of information refused to be put 'on the record' suffice it to say that the military medical culture and the military shipbuilding culture often did not mesh well. The TPC integration mechanism of Configuration Management (CM) was fully utilized to resolve conflicts and improve communication among all the agencies involved.

V. CONFIGURATION MANAGEMENT AND TPC THEORY IN THE HOSPITAL SHIP PROGRAM

A. INTRODUCTION

This chapter will attempt to explain the role of Configuration Management (CM) as a change mechanism to be used within the TPC Model. There are many different types of change mechanisms that can be used to promote and manage change--this is one more tool that can be added to the manager's toolchest. Configuration management is a unique vehicle for managing TPC influences and changes because it is already established by DOD regulations and directives, and practiced by some U. S. Navy Syscoms, for example the Naval Sea Systems Command.

Configuration Management (CM) definitions, history, policy, and the role of CM in a medical environment will be commented on. The specific categories of CM documentation will be explained. Lists of each type of change can be found in Appendix B.

B. CONFIGURATION MANAGEMENT AND TPC CHANGE LEVERS

Tichy [Ref. 1:p. 6] lists change levers such as external interface, mission, strategy, managing organizational mission/strategy processes, tasks, prescribed networks, organizational processes such as communication, problem solving and decision making, people and emergent networks. A

change lever is a subcomponent of an organization used to initiate and manage change in that organization.

As will be seen in the following sections, configuration management touches upon most of these change levers used for managing change in an organization. As a quick preview, configuration management forces communication between all interested parties. Through its structure, problem solving and decision making are of paramount importance. Many of the changes in the configuration of the hospital ships resulted from the outside environment as well as internal contract considerations. Decisions made regarding the mission and strategy of the hospital ships were formalized, managed, and documented through configuration management procedures. Both the formal chain-of-command and informal "grapevine" (emergent networks) were used to manage the changes.

C. CONFIGURATION MANAGEMENT DEFINITIONS

Configuration Management (CM) may be defined as: "the process that identifies the functional and physical characteristics of an item during its life cycle, controls changes to those characteristics, and provides information on the status of change actions." [Ref. 45:p. 6]

Configuration Management involves four basic functions:

1. Identifications,
2. Control,

3. Status accounting, and

4. Audits.

The primary emphasis in this chapter will be on configuration control outside of the purview of SUPSHIP San Diego. The three other areas will only briefly be commented on.

A configuration management program is required for government contracts involving major acquisitions. The hospital ship program is not considered such an acquisition, but a CM program is in place as part of the normal business procedure of SUPSHIP San Diego. Such a program has many benefits. These include a current description of the developing hospital ship, an audit trail and history of changes to a particular item, and documentation of the reasoning behind the change. CM contains the written foundation for future analysis and correction of errors, ensures that such errors are corrected in a cost efficient manner, and "ensures that such errors are corrected in a cost efficient manner, and "ensures that the system can be maintained and modified at minimum cost and down time" [Ref. 45:p. 11-1].

Changes will certainly occur throughout the life expectancy of the hospital ship due to changes in mission requirements (i.e. humanitarian deployments) and changes in political factors affecting cost and schedule influences on hospital ship design.

Ruckert [Ref. 46:pp. 4-87] confirms the CM definition and adds that it is a discipline applying administrative direction and surveillance in performing the four functions. It states that the purpose of configuration management: "is to prevent engineering anarchy and permit orderly development, recording, reproduction, and support of a system. CM is intended to control configuration changes, not to prevent them." [Ref. 46:pp. 4-88]

A philosophy emerges here that briefly sums up the main problem with the hospital ship program. The Navy Program Manager's Guide [Ref. 46:pp. 4-88] states that: "effective (CM) control procedures will hopefully eliminate the nice-but-not-necessary changes that keep designs in a state of turmoil, lead to litigation, and unnecessarily burden the logistic support system and training program."

OPNAVINST 4130.2A of 16 December 1985 provides the basic policy and objectives of the Navy Configuration Management System (NCMS) used in the construction and maintenance of the USNS MERCY and USNS COMFORT. The general policy of the NCMS is that of a "cradle to grave evolution". This means that integrating the CM elements starts with the initial contract acquisition and continues until the system under CM is scraped at the end of its life time. By definition this will mean a great deal of coordination between the cognizant government activities and private industry. The formal structure of a NCMS system will increase communication and

the capability for standardizing procedures and practices of CM throughout the Navy in dealing with private industry.

The objectives of the NCMS are defined and enumerated [Ref. 47:p. 2] as follows: "Many discrepancies perceived as logistics support problems are directly attributable to inadequate configuration management. The objectives of CM are to obtain and maintain:

1. Effective planning to ensure that the elements of CM are appropriately implemented for each CI during each phase of its life-cycle.

2. An optimum degree of design and development latitude and yet introduce the elements of CM at the appropriate time, degree and depth.

3. Visibility of development progress and compliance with design requirements during the acquisition process.

4. Appropriate interfaces and coordination.

5. Efficient processing, control and implementation of configuration changes.

6. Adequate and verified technical documentation and configuration status accounting records to satisfy total program needs.

7. Desired life-cycle costs and the required level of operational readiness, supportability, interchangeability and interoperability through standardization and ILS consideration.

8. Accurate and timely knowledge of the current configuration of the CI."

D. CONFIGURATION MANAGEMENT HISTORY

Configuration management and control as a distinct process can be traced back to the 1950's when a series of program management initiatives were instituted by government

(customer)/industry (contractor) teams [Ref. 48:p. 7]. Configuration management and other initiatives (i.e., data management or systems engineering) in the 1960's were brought under tighter control by the Department of Defense through a series of instructions and directives. Among others the reason was to ensure "consistency with overall DOD policy and direction and compatibility with other management disciplines." It is said that nothing succeeds like success, and configuration management has been successful in the sense that it is still around today--it has stood the test of time.

Roveling [Ref. 49:p. 88] provides the following succinct

> The principles and procedures of configuration management have been developed and applied in many system programs during the past 25 years. They originated as a set of techniques for controlling and verifying changes to operational military equipment. These were revised and expanded in the early 1960's to cover the preparation and control of specifications during the definition and acquisition phases of a system program.

Configuration management is a unique vehicle to balance the Technical, Political and Cultural influences in the hospital ship project. Configuration management, particularly the management approval mechanisms within it are enough to adapt to changing TPC environments.

Acker [Ref. 48:p. 10] states:

> The application of configuration and data management must be carefully tailored to be consistent with the quantity, size, scope, stage of life-cycle, nature, and complexity of the system/end product involved. Program managers need to tailor the procedures that have been established to the complexity of the system/end product to be managed.

Configuration management has been praised by many because its structure forces the government and contractor to communicate with each other. Configuration management is again a unique vehicle to enforce this communication and therefore align and balance the various technical, political and cultural influences within the hospital ship project. The structured management approval mechanisms enhance this communication process and thereby the balancing of the TPC influences.

E. CONFIGURATION MANAGEMENT POLICY

The state policy of the Department of the Navy (DON) covering the initiation and approval of changes is as follows:

> . . . configuration control will be exercised rigorously, and that no changes which effect the approved configuration (delineated by the contract specifications) of an item shall be made in the items on their documentation, except thos which are necessary of offer substantial benefits to the Government. [Ref. 50:p. 1202]

Changes are limited to five categories which benefit the government. Changes can:

1. Correct errors of deficiencies,
2. Upgrade capability (i.e., humanitarian deployment to the Philippines),
3. Achieve a net life-cycle cost savings to the Government.
4. Upgrade capability and achieve a net life-cycle cost savings, and
5. Provide for the safety of personnel of equipment.

All approved changes are divided into two categories which are a) Headquarters Modification Requisitions (HMRs) and b) Field Modification Requisitions (FMRs). These categories are defined by various levels of approval authority and dollar thresholds which will be defined shortly.

Another issue in configuration management arises when a proposed change is accomplished under the hospital ship contract. All approved changes are categorized as essential or optional--which is a matter of judgement of SUPSHIP San Diego and NAVSEA Headquarters.

Essential changes are defined as: [Ref. 50:p. 1203]

> The changes that are necessary for essential military or operational requirements, and must be done by the contractor under the contract prior to delivery of the ship to the Government. They include items that would effect the ship's ability to perform her mission if not accomplished prior to delivery of the ship, and certain necessary technical improvements for military reliability, safety, and important operational features. They also may include changes for repairs to Government-Furnished Materials (GFM), Government-responsible trial items the Headquarters directs to be performed prior to delivery of the ship, Government-responsible system defects and repairs under conversion contracts. (Such as the hospital ship program).

Optional changes [Ref. 50:p. 1204] are:

> those technically approved changes that do not have to be accomplished before delivery of the vessel by the contractor. To be truly optional a change must be subject to cancellation without later accomplishment, or accomplishment deferred until after the Government accepts delivery of the vessel. All changes that have been classified as optional may be implemented only by a contract modification which establishes the price and delivery impact of the change . . .

The author of this thesis proposes that only by understanding the nature and influence of the various Technical, Political and Cultural influences within and without the hospital ship project can a sound basis be prepared for the future logistic support of the hospital ships. Configuration management and control is the methodology for channeling the TPC influences into the end product of a hospital ship. It is a continuing configuration management program that will be of great benefit to the individual hospital ship commands, and the Naval Medical command as a whole.

Although this thesis is restricted in scope to identifying the TPC influences and the management approval mechanisms through which they are funneled there is an overall long term goal. Dean [Ref. 51:p. 21] states it succinctly as: "The purpose of configuration management, at the bottom line, is to ensure the continuing logistics supportability of systems in the government inventory."

F. THE ROLE OF CONFIGURATION MANAGEMENT

The role of configuration management is integrating Technical, Political and Cultural influences is not likely to diminish or stay in equilibrium. The need for CM will grow. As medical projects grow ever more complex, be they hospital ships or sickbays aboard combatant ships, the need for managing the often conflicting influences will continue to be

felt. Dean [Ref. 51:p. 37] believes the basic structure of configuration management will not change but the working tools will. These tools include increased use of mathematical modelling, automation and computerization of the project under configuration control and the TPC influences impacting on the project.

As the medical projects grow more complex, there is no reason not to believe that the TPC environment within and without the project will also become more complex and dynamic, particularly as resources become more constrained. This has been the trend in naval medicine. The author expects this trend to continue in direction, if not in intensity.

Dean [Ref. 51:p. 37] sums up overall (medical) configuration management:

> If we look into the future, we see a new frontier in configuration and data management. Our challenge is to define it and apply our innovation and imagination to the solution of its problems. We must evolve with the times by using the technology of tomorrow to manage the products of tomorrow. If we don't, we are in danger of becoming obsolete. The message is clear. We msut promote today the discipline, tools, and caliber of personnel required to manage tomorrow's sophisticated world of configuration and data management.

The author strongly believes the Naval Medical Command possesses the requisite personnel and resources to successfully implement a medical configuration management program.

Although configuration management is a process which can readily handle all Technical, Political and Cultural influences Fohnman [Ref. 52:p. 55] believes the individual configuration manager can handle the Technical influences the best. This author's view's: "configuration management as involving three elements: administrative, clerical and technical management."

He accuses many in the field of being little more than administrative and clerical functionaries and of ignoring the real purpose of the position--technical management. This author states there are two reasons for this:

1. The administrative and clerical emphasis of most configuration management instructions, and
2. The lack of engineers in positions of configuration managers.

The author's preference for engineers is quite obvious:

> We have found that, generally, the technically oriented configuration manager does a better job than a nontechnical person and, specifically, that the configuration managers who are engineers tend to do the best job. The reasons seem to be that there is no credibility gap when dealing engineer to engineer, and that the depth of understanding of technical problems tends to be greater, therefore stimulating questions/discussions that lead to better configuration management performance.

The lesson in this quote for the Naval Medical Command in implementing a configuration management program is that technically oriented individuals attuned to the ever changing technology of medical equipment and medical design will be the best choices for medical configuration management. But

even the best technical person will be unsuccessful if he ignores the Political and Cultural considerations of his job. The author further states that "configuration management activities are not normally visible to top management". Therefore the Political and Cultural aspects of a military medical CM position are as important as the technical aspects.

Only a strong configuration management program can balance the competing TPC influences to keep a project under cost and on schedule. Source after source documents this. For example:

> The key to controlling engineering changes and the configuration of the production line lies with the techniques and discipline within a well structured configuration management function enjoying full support of the Program Manager . . . Control of engineering changes was made possible through the consistent, disciplined application of good judgement, technical competence, and management techniques which are necessary to achieve and maintain program balance. [Ref. 54:p. 1]

The author goes on to state that:

> Program Management is often referred to as the 'management of change', which it certainly is in the broadest sense. However, all too often this broad interpretation of the management of change has not properly included change management. In this more limited context, change management is one of the major functions of configuration management . . . [Ref. 54:p.1]

Powers [Ref. 53] also recognized that there are discrete 'Forces for Change' that fit into the TPC framework--they are:

1. The contractor and associated technical representatives

2. The User in separating goals from requirements

3. Changes in personnel

4. Changes in requirements dictated by expanded missions

5. Changes by altered threats.

> Changes in user personnel affect the program in several ways. At the headquarters level, the replacements of those who helped design the system by evaluating and suggesting changes from the user's point of view do not always agree with their predecessors. [Ref. 53:p. 16]

Without configuration management follow-up on a project:

> . . . the only way out of the tangle was to spend many dollars and much time. The out-of-control condition was not an inevitable thing and would not have developed had the government maintained the configuration control it has exercised up to that point. Apparently, good configuration management is a habit difficult to acquire and easily forgotten. [Ref. 53:28]

and:

> . . . there is no clear answer to the question--How many changes should be made? All that can be said is that change management is an essential part of cost management and changes must be made in response to a dynamic environment. The Program Manager must recognize the forces at work and achieve the balance. [Ref. 53:p. 34]

G. CONFIGURATION MANAGEMENT MEDICAL ENVIRONMENT

Powers [Ref. 53:p. 1] comments on the balancing act of technical, political and cultural forces that the process of configuration management strives to address.

> One school of thought is that a continual flow of changes are necessary to continually improve the product, its usefulness, its value, its production, its maintenance, etc. Another is that design configurations should be frozen once a workable, useful design has been achieved.

Both positions have a great deal of merit and the TPC influences inherent in a project determine to what degree a

project will move on the continuum between the two extremes. The author goes on to state:

> . . . that changes do, over a given cycle of time, improve a product, make it better, more useful and simplify its manufacture and maintenance. In addition, there is a continuing advancement in the general state of particular product involved. On the other hand, design freeze results in the desired economies of stabilized production processes, tooling, and quality control, plus standardized specifications and stabilization of the maintenance and supply situation.

The hospital ship project is an ideal example of this balancing act and the pull of the two extremes. There are strong TPC influences for more and better medical equipment and technology onboard the hospital ships. At the same time there are very real cost and schedule considerations, along with long term logistics support considerations and their cost aspects that must be balanced.

Graham [Ref. 54:p. 2] supports the general consensous of authors in this field when writing:

> A middle ground, somewhere between the excessive issuance of changes and no changes at all would probably be best, though. And the answer is Configuration Management. Properly administered, the configuration management program should result in an optimum situation with respect to changes, economies and the ever important advancement in the state of the art.

The Naval Medical Command, and the individual hospital ship commands, need to establish and maintain formal configuration management and control programs. On the surface this will not be greeted with great enthusiasm from anybody. The following quote [Ref. 55:p. 28] provides a glimpse of the reasons:

> The problem is, where will you find the person with the qualification to accomplish those configuration management tasks for you? For many years, configuration managers have been 'configuration recorders', required merely to track and record the accomplishment of various program activities without participating in the initial decisions about the tasks. The configuration manager has acquired a reputation as a 'paper pusher' and a stick in the mud'. . . . the configuration manager all too frequently receives sparse recognition or praise for his efforts and management expertise. The resulting feelings of low esteem and low status compared to other functional managers have led to a perception of poor career progression and low promotability within the configuration management field.

If the Navy Medical Command and hospital ship commands follow up on this recommendation, the aforementioned pitfall perceptions can be avoided with strong 'front office' support for the CM program implemented. This support includes rewarding individuals appropriately for a successful CM tour.

Carr [Ref. 56:p. 21] talks about the recurring headaches (to the supply officer) that occur when repair parts for equipment are not onboard after deployment. The author states:

> . . . your ship needs a solid Configuration Management program, and why improper or nonexistent shipboard Configuration Management remains one of the primary contributions to poor shipboard logistics support. To be effective Configuration Management should be an aggressive ongoing program of verification of all allowance documentation for installed equipments onboard a particular ship.

This reference states the following steps are necessary to implement a viable Configuration Management program aboard ship:

1. Designate a ship's Configuration Officer (usually Supply Officer or 3-M Coordinator

2. All work center personnel should become familiar with the COSAL Use and Maintenance Manual

3. Routinely, equipment changes and documentation should be identified, confirmed and corrected using OPNAV 4790/OK (Ships Configuration Change Form)

4. Ensure all configuration changes are documented accurately and correctly on a timely basis.

H. TIMING OF CONFIGURATION MANAGEMENT CHANGES

Configuration Management not only deals with the justification for, and documentation of changes, it also deals with the impact of the timing of changes. [Ref. 57: p. 58] states:

> Poorly timed changes may unnecessarily disrupt contractor operations, create scrap or rework, and/or generally increase cost to the Government. Delayed changes, on the other hand, may jeopardize corrective actions designed to avoid fatal or serious injury to operation personnel. Inadequate attention to how changes are ordered may lead to disputes and claims by the contractor.

An example of changes implemented in an unanticipated and rushed schedule were the 'finishing touches' for the USNS MERCY in 1986. This process was yet another example in which Naval Sea Systems Command in general, and SUPSHIP San Diego in particular, were caught in the middle of events. The deployment phase of the USNS MERCY was touched upon in Chapter Four but it's effect on the configuration management control process was significant.

Both NASSCO and NAVSEA were pressured to finish the ship months ahead of schedule and were rushed in particular to finish the multitude of Two-Kilo cards generated by the Board of Inspection and Survey during the Acceptance Trial. The majority of the discrepancies were corrected, particularly the safety items. Although difficult to measure quantitatively, there was an increased cost to both the government and the contractor in trying to complete the INSURV inspection changes in a compressed schedule. Personnel at all the agencies, involved agreed that the process as conducted was neither optimal nor the preferred way of doing business. But the configuration management control process did work even when operation under unanticipated and shortened deadlines.

I. SEA TRIALS AND THE MILITARY SEALIFT COMMAND IN THE CONFIGURATION MANAGEMENT PROCESS

One of the great advantages of a formalized configuration management control system is the corporate knowledge as represented in the documentation of the reasons for change. The sister ship of the USNS MERCY, and the USNS COMFORT, has benefited greatly in the 'lessons learned' category in constructing the second ship. NASSCO was helped in particular by the documentation in the form of trial cards for the Builder's Trial, the first of the series of sea trials the hospital ships go through. The preparation for, and conduct of the Builder's Trial went much more smoothly

than the first one (on the MERCY) due to the voluminous amount of change documentation kept at the construction site at NASSCO.

The Military Sealift Command plays a integral role in the configuration management process. [Ref. 58] The onsite function is through MSC participation during construction of the ships and the Builder's Trial and Acceptance Trial. This process, as well as the Final Acceptance Trial during the Guarantee Period, were outlined in Chapter Four.

The MSC CONREP Office reviews and proposes modifications to the hospital ships. The review function of contractor proposals is part of their job as attached to SUPSHIP San Diego. Proposed configuration management changes can originate at the field level or from the Engineering Code at Military Sealift Command Headquarters. Copies of completed reviews and proposals, in the form of internal memos for modifications are sent through the SUPSHIP/NAVSEA chain of command and to MSC headquarters. Close coordination and communication is maintained at all times through this dual reporting process. The connection to NAVSEA is from two directions,

1. Up, through SUPSHIP San Diego, and,
2. Across, from MSC HQ Engineering which supplies the MSC voting member to the NAVSEA PMS Configuration Control Board.

The post-construction configuration management phase starts from the actual delivery of the hospital ship to the

Navy and lasts for the full eight months of the Guarantee Period as called for in the contract. This period is a warranty period in which all Contractor Furnished Material (CFM) is supposed to work without failure for eight months. The other category of material, Government Furnished Material (GFM) is also tested and inspected during this period but the contractor does not have to pay for the failure of this equipment unless it is proven that it was installed incorrectly.

The MSC crew during the Guarantee Period writes up Guarantee Deficiency Reports on all CFM equipment. MSC personnel such as Engineering and Deck Officers, and MTF department heads, forward their respective GDR's to the Chief Engineer who reviews and transmits these reports to NAVSEA and MSC HQ. These reports are part of "Rolling-Over" configuration management information when building subsequent ships of the same class. For example the humanitarian deployment of the USNS MERCY to the Philippines provided valuable information for the construction of the USNS COMFORT the following year.

A somewhat unique arrangement of resolving configuration management changes is the presence of a Guaranty Engineer aboard the hospital ship for the entire Guaranty period. This individual is an employee of the prime contractor (NASCO) but is paid for by the Navy under provisions of the contract. The Guaranty Engineer attempts to correct as many

CFM deficiencies as possible while underway or in foreign ports.

After the Guarantee Period MSC involvement in the configuration management process does not stop. When for example the USNS MERCY is homeported in Oakland, CA the actual berth will be at an MSC maintenance facility. A complete archive of all configuration management documentation should be located at both the shore facility and aboard the hospital ship. The archive's purpose will be to facilitate future maintenance and modifications by providing a fund of corporate knowledge of lessons learned. This archive will be directed mainly at hull, deck and machinery spaces the MSC is responsible for, and not the MTF spaces since the assigned medical personnel are responsible for equipment maintenance.

J. CONFIGURATION MANAGEMENT DOCUMENTATION

In discussing the various types of configuration management control documentation (HMR, FMR, RFW, RFD, and PMP) it is important to note that there are various levels of approval for each type of document. There are four levels of approval within the hospital ship project and they are:

1. SUPSHIP San Diego,
2. SHAPM,
3. COMNAVSEA, and
4. CNO.

It is beyond the scope of this thesis to cover the myriad of details of approval for each change. However, in general, [Ref. 50:p. 1207] "the greater the technical, cost, and/or schedule impact of a proposed change, the higher the organizational level of approval."

The overall goal in this chapter is to enumerate the variety of types and causes of configuration management control changes of the hospital ship project rather than to review the minutiae of detail in how these changes are administratively pursued through the chain of command.

Whether changes are Technically, Politically or Culturally influenced, they all fall into the following categories:

1. Engineering Change Proposal (ECP),
2. Request for Waiver (RFW).
3. Request for Deviation (RFD),
4. Field Modification Request (FMR),
5. Headquarters Modification Request (HMR),

A complete listing of all categories and associated dollar amounts can be found in Appendix B. Each category will be defined and an example (or notable examples) will be given for each category of documentation of configuration management control.

1. Engineering Change Proposal (ECP)

As defined in MIL-STD-481 an engineering change is [Ref. 59:p. 2]:

an alteration in the configuration of an item, delivered, to be delivered, or under development, after formal establishment of its configuration identification. An engineering change proposal therefore is a term which includes both a proposed engineering change and the documentation by which the change is described and suggested.

DOD-STD 480A goes into exhaustive detail on the requirements for engineering changes, and the internal classifications for such changes. Once again this thesis will forego such a detailed discussion and instead stay with the broad categories of documented changes with representative examples and how they fit into the change process.

Examples of ECP's are red cross markings for the lifeboats, floor covering in the operation room, installing additional autoclaves (laboratory) or telephones (administration), or correcting discrepancies in any part of the ship. SUPSHIP San Diego ECP computer printouts did not list specific costs but did note affected specifications and drawings and any related FMR's or HMR's.

2. Request for Waiver (RFW)

A Request for Waiver (RFW) is an "after-the-fact" action. The prime contractor has completed a specific segment of the contract and later it is found out (either through government or contractor quality assurance efforts) that the job does not meet contract specification. The SACAM states [Ref. 50:p. 1233]:

Requests for waivers may indicate defects in the contractor's quality assurance and inspection procedures,

and the SUPSHIP surveillance of these procedures. MIL-STD-481 [Ref 59:p. 2] defines a waiver as "a written authorization to accept an item which during production or after having been submitted for inspection, is found to depart from specified requirements, but nevertheless is considered suitable for use 'as is' or after rework by an approved method.

Examples of RFW's are lighting requirements in different spaces of the hospital ship, lubricating systems, types of paint, adhesives for decks and alarms.

3. Request for Deviation (RFD)

A Request for Deviation (RFD) is a before-the-fact action. A deviation, as defined in MIL-STD-481 [Ref. 59:p. 1] is:

> a specific written authorization, granted prior to the manufacture of an item, to depart from a particular performance or design requirement of a specification, drawing or other documents, for a specific number of units or a specific period of time.

RFD's include changes to piping systems, doors and passageways, insulation, painting, deck tile, dental and laboratory equipment and even hospital ship lettering.

4. Field Modification Requisition (FMR)

As described by SUPSHIP San Diego [Ref. 60], a Field Modification requisition (FMR) is an idea or concept initiated at the field contracting activity level. It does not fit any of the preceding categories and does not have any particular dollar threshold.

A good example of an FMR is the feasibility study for medical storage that was funded and compiled, and ended up as a project manager proposal. Medical storage areas aboard the hospital ships were increased from the original estimate after calculation showed the growing authorized medical allowance lists (AMAL) would not fit within the estimated original storage areas.

5. Headquarters Modification Requisition (HMR)

Like the FMR, the headquarters modification requisition (HMR) is a concept or idea originated within the Project Manager's Office at Naval Sea Systems Command. HMR's therefore do not fit any of the preceding categories and does not have a dollar range. The difference between the FMR and an HMR are the respective staffs, and specialties within each staff, when modification requisitions are proposed.

As a corollary to the preceding example, the actual authorization and funding of the increase in AMAL storage space, once the PMP was approved, was administratively handled as an HMR. Another example would be the small marine sanitation device (MSD) provided for the reduced operating status (ROS) crew when in homeport status.

K. CURRICULUM OF REQUIREMENTS (COR)

1. COR Evolution

Configuration management changes in their most preliminary and fluid form are demonstrated in the evolution

of the four Curriculum of Requirements (COR's) (although only the first and last COR's were actually published.

The COR's were jointly developed between the Naval Sea Systems Command--represented by the Project Manager's Office, and the Naval Medical Command--represented by it's Surface Medicine Code and Medical Liaison Officer. The following COR History shows the lifespan of the effort. There were complex TPC influences in the evolution, but participants were reluctant to speak 'on the record' in separating out specific technical, political and cultural influences.

The COR History as outlined by the hosptial ship program manager is as follows:

31 July 1981 - Original Grey COR

21 July 1982 - Blue COR - Minor revisions intended to incorporate several changes approved during the proposal phase for phase I.

25 August 1982 - Red COR - Never officially released to the offerors. This was a major revision to the original requirements, and was considered too severe a reduction in capability.

21 October 1982 - Yellow COR - Final approved document released to offerors. [Ref. 26]

2. First Original (Grey) COR

Ref. Circular of Requirements for Afloat Definitive Care Facility T-AH(X) dated 31 July 1981, Department of the Navy, Naval Sea Systems Command, Washington, D.C. 20362

The original COR, also known to the Naval Sea Systems Command as the Grey COR, set requirements (not specifications) that resemble a Functional Baseline as set out in the System Engineering Management Guide (p. 11-1). A Functional Baseline is defined as follows, the functional baseline is established at the of the CE (Concept Exploration) Phase. The systems specification (Type A) (on development specification, Type B, for smaller programs) defines the technical portion of the program requirements. Normally the initial system specification is included in the RFP and provides the basis for contracting and controlling the system design during the Demonstration/Validation (D/V) Phase. It is the foundation for configuration management during the subsequent phases of the program. Once the system specification has been authenticated, formal configuration control is initiated.

As mentioned previously the hospital ship program has many unique aspects. Most specifications for the ship were developed by the individual offeror's in response to the RFP. Other ships constructed by NAVSEA would have voluminous military specifications provided to the contractor which

would form the Functional Baseline and progressing to the second Allocated Baseline and final Product Baseline.

The first and subsequent COR's provided only requirements that had to be met in responding to the series of RFP's as mentioned in Chapter Four. These requirements, although not considered specifications, can become quite detailed. Appendix D, taken directly from the Grey COR [pp. ii-iv], represents aspects of a 'regular' configuration management Functional, Allocated and Product Baseline.

Largely in response to financial pressures, some major and many minor configuration changes were made to the COR Requirements through the second 'Blue' COR, third 'Red' COR and fourth 'yellow' COR. Rather than list all four revisions and the third Table of Contents/List of Appendices, the author has enclosed only the first and fourth COR's so that the reader may compare for himself the extensive configuration changes listed in Appendix B. [Ref. 61]

L. CONFIGURATION CONTROL BOARD

The Configuration Control Board (CCB) was the main TPC integrating mechanism which resulted in the evolution of the three preliminary and the final COR. The Configuration Control Board (CCB) represents an important integration mechanism for aligning the complex and competing Technical, Political and Cultural influences within the hospital ship project. CCB's are located at both the SUPSHIP and NAVSEA

levels. They are a dynamic and organic mechanism for dealing with TPC influences in the following components (TICHY, p. 128) of the hospital ship project:

1. mission/strategy,
2. people/managmeent style,
3. prescribed methods,
4. organizational processess and,
5. emergent networks.

Representatives from management and the functional areas such as engineering, contracting and quality assurance come together to work out their differences in finalizing the decisions and documentation for the categories of configuration managemnet changes. Most often the resultant decisions are reached by consensus, particularly at the SUPSHIP field activity level.

The CCB at the Naval Sea Systems Command level also uses consensus but may have to resort to formal majority votes when the TPC conflict influence among the NAVSEA, NAVMEDCOM and MSC cannot be overcome. This evidently occurs rarely since consensus is reached on most issues.

M. PROGRAM MANAGER PROPOSAL (PMP)

The Program Manager Proposal (PMP) is another major form of Configuration Management documentation.

A PMP, is partially defined [Ref. 50:p. 1201] as "changes that do not meet the policies, requirements, and procedures

contained in this chapter shall be forwarded to the cognizant Ship Acquisition Project Manager (SHAPM)."

The PMP Process is not actually part of the Configuration Management Process but is an adjuct to it. It is a procedure for managing change and the hospital ship project was subject to it. In the four areas it was used, stored configuration management documentation was utilized while the actual approval process was elevated from the internal Naval Sea Systems Command command structure to the Secretary of the Navy.

The draft of the OPNAV Instruction on the Program Management Proposal Process [Ref. 62:p. 1] states:

> The purpose of the Program Management Proposal process is to provide a mechanism to regulate research and development and to control configuration changes and modifications which lead to increases in non-recurring, recurring or support costs to ships, aircraft, missiles, weapons, systems, combat vehicles and combat equipment both during and subsequent to production.

1. Background of the Program Manager Proposal Program

The PMP program [Ref. 62:pp. 1-2] was established in 1982 by SECNAV direction to control spiraling costs. Initially only selected programs were required to submit PMP's when a threshold was broken. The PMP program has proven to be a valuable tool in managing configuration control and cost, and has therefore been expanded to include all Department of the Navy RDT&E, acquisition and retrofit programs. Thresholds have been eliminated. The intent of PMP control is to prevent unit cost growth and 'requirements

creep' due to unnecessary configuration changes, adding capabilities to existing systems or making improvements that entail 'hidden' execution costs. Once a baseline is established, either through an approved Operational Requirement and its attendant approved PMP, an approved milestone, a prior approved PMP or through a PPBS decision, no changes will be made to that baseline without an approved PMP or a subsequent PPBS change. This process will enforce configuration freeze between milestones, ensuring block upgrades and long range planning. Once approved, the PMP shall be considered directive in nature. By their signatures, the OPNAV Resource Sponsor certifies committment to fund the proposed change, and the SYSCOM Commander certifies the program is executable for the dollars specified in the PMP. The approved PMP will be attached to the existing program documentation and will be considered the new program baseline.

The draft OPNAV Instruction states the submission criteria must be submitted when there is a new operational requirement, when a change is proposed for the approved baseline, or when there is an increase in unit cost for the system (hospital ship) in production. Discretion and the political aspect of the TPC model come into play in the change management process.

The instruction mentions that there may be 'fact-of-life' changes [Ref. 62:p. 3] to a program that may

be beyond the control of the SYSCOM, Resource Sponsor or the SECNAV. The four hospital ship changes that were handled as PMPs could have been interpreted as 'fact-of-life' changes, or as operational requirements, or as increases in unit cost.

In interviews with the Supervisor of Shipbuilding Office, and the Program Manager's Office, it became clear to the research that there are many subleties to the Political process between these internal bodies of NAVSEASYSCOM, and the 'external' bodies of OPNAV and SECNAV. The subleties were such that no party would comment beyond the fact that each instance had 'command interest' to a degree that a PMP was required. The main philosophy behind the PMP process appears to be a concern for unit costs of new systems.

The hospital ship program consists of only two ships, spread over a seven year construction life, and has a relatively modest cost (under $100 million) compared to billion dollar weapon systems. On this basis the PMP process appears more appropriate for the major weapons systems than for a 'minor' medical acquisition.

The Technical, Political and Cultural influences in the hospital ship project are an integral part of the PMP process. They are part of the decision to initiate a PMP, and they are part of each step in the PMP approval chain. This section on this type of change management mechanism will conclude with an outline of how PMPs are reviewed [Ref. 62:p. 6]:

1. SUPSHIP San Diego to NAVSEASYSCOM Program Manager's Office.

2. NAVSEASYSCOM to Resource Sponsor (in this case OPNAV 093 & 42)

3. After completion of a review board the PMP is forwarded to the Department of the Navy Program Information Center (DONPIC), who forwards the PMPs to the Chief of Naval Operations.

4. After approval by CNO, DONPIC forwards the PMPs to he Office of Program Appraisal (OPA) which coordinates within the Secretariat.

5. OPA forwards SECNAV decisions to DONPIC who sends the PMP approval or rejection to OPNAV and NAVSEASYSCOM.

At the time of the writing of this thesis. (June 1987), there were five hospital ship project PMPs in various stages of approval. They were to add:

1. A sideport for patient access by boat,

2. 70,000 cubic feet of medical storage space,

3. A brig and master-at-arms office,

4. An undetermined amount of office/administrative space and,

5. A CT scanner.

All PMP's would be added to both ships. The CT scanner is the most notable of the five PMPs, and the most controversial.

N. EXAMPLE OF A MEDICAL PMP

The addition of a CT scanner to the hospital ships is an example of incorrect input informaiton going into a good configuration management control system. The CT scanner

issue is also an example of flag officer influence, congressional interest and local newspaper coverage. A local newspaper in San Diego [Ref. 63, p.1] reported the issue as a minor expose on the project, to the dismay of SUPSHIP San Diego and NASSCO.

In the article, a Navy spokesman in Washington, D.C. was quoted as saying that "the Navy is studying the possibility of adding CT scanners to the ships". Both ships are to have standard X-ray equipment. Any analysis of the four revisions of the lCOR shows this to be true. The final COR calls for (per ship) eight X-ray rooms with at least six of the eight rooms "equipped with a 500 MA unit with fluoroscope and image intersurfaction capability" (Yellow COR, p.10).

The article went on to say that "Originally, the Navy had rejected as impractical the idea of having CT scanners aboard, but after a tour by some admirals last year, it (the Navy) decided to reconsider the issue". The hospital ship program has been the subject of intense flag officer discussion since its inception, particularly among flag officers in OPNAV, NAVSEASYSCOM, COMNAVMEDCOM, and MSC.

To add to the bad impression left by this article, a spokesman in the office of U.S. Senator Pete Wilson (R-Ca.) added that "Serious questions would be raised if the Navy had to rebuild part of the ships to add the equipment".

In addition, a local trauma center indicated: "We feel that the CT scanner is crucial to care for patients. Regular

skull X-rays are almost useless in letting us know what we need to know. CT scanners have been widely used since the mid-1970's. Use of the scanners is the standard of care in the community. By law, the Navy is required to provide care equal to that in the civilian community".

Although this reporter put the issue in the worst light possible, the CT scanner addition had been grinding through the configuration management control process a year earlier. No documentation exists on whether CT scanners were rejected on technical, cost, supportability, or medical grounds between 1981 and 1984 when the COR's were written and revised. The issue was raised by many of bidders responding to the RFP's issued by the Military Sealift Command and Naval Sea Systems Command.

A precise history of the subject was provided by a telephone interview [Ref. 64] with the assistant program manager for the hospital ship project. This source stated that the subject of the CT scanner came up a few times between 1982 and 1985 but was never made part of the COR. In mid-1985 OPNAV Code 04 directed that CT scanners be added to the two hospital ships. Technical input was requested from NAVMEDCOM, and NASSCO was directed to prepare an ECP for the modification. A Program Manager Proposal (PMP) was submitted to OPNAV but was first withdrawn, and later resubmitted.

One reason was that a NAVSEA contract consultant (Designer's and Planner's) questioned the NAVMEDCOM choices

for suitability for shipboard use. In response to this NAVMEDCOM advised NAVSEA that the submitted models were not equivalent and would have to be redone. In fact, two out of three chosen companies later refused to sign a document stating that their equipment would work on a ship. While the ECP for installation was forwarded from NASSCO to NAVSEA (via SUPSHIP San Diego) the PMP was still hung up in OPNAV because NAVMEDCOM needed to provide new choices for CT scanners. A PMP needs definite cost estimates to proceed through the 'chop-chains' at OPNAV. This 'old' PMP was withdrawn and a new PMP was submitted in July 1986 with new choices of CT scanners from NAVMEDCOM. By October 1986, the PMP had worked it's way through OPNAV and was submitted to SECNAV where the PMP was approved that month.

In 1987 the problem continued with funding of the PMP as the main obstacle. Although the configuration control review procedures functioned properly they do not address funding concerns (nor are they designed to). Many configuration changes are approved before the funding is finalized. NAVSEA would prefer to have the funding first but three other PMP's approved and awaiting funding are: additional medical storage space, brig & master-at-arms space, and expanded administrative space.

Also surprising is that in May/June 1987 there were unfunded configuration management control proposals before NAVSEA and OPNAV. Among these the controversial and

expensive CAT scanners and three other program manager proposal's (PMP's) already approved by OPNAV and awaiting funding.

The literature and structure of configuration management is for the most part silent on the subject of funding of changes. The unspoken assumption is that time and effort would not go into preparing any of the various documents, from and ECP to a PMP, unless funding could be found. This assumption, at least in the hospital ship project, is threatened by fluctuating funding levels, and sources of funding, for the ship (USNS_MERCY).

The thesis author has to admit to feelings of surprise and dismay upon reading this article. At best this placement of the two hospital ships on a "Pentagon cut list" is a budget battle ploy to press Congress for continued funding. At worst this turn of events shows the continued lack of priority 'medical readiness' is given when planning 'combat readiness'. The article appeared when the USNS_COMFORT was still being constructed at NASSCO and not 70% complete. It is surprising in light of the many comments made by various Pentagon officials supporting improved and increased medical readiness.

With the recurring battles over the Pentagon's budget Military Medicine [Ref. 65:p. A10] states:

> . . . with the Navy nearing its 600 ship goal, the government is discovering that there simply isn't enough money to pay for the crews to operate the ships, or to

> maintain them. So, Pentagon planners, realizing that the 600-ship Navy will be a fleeting (no pun intended) reality at best, are looking for ways to cut costs. Given a choice between a big gray destroyer and a big white hospital ship, the Navy prefers to keep the warship. Last fall, the Pentagon announced that the hospital ships were on a list of programs to be cut if next year's (FY 88) Pentagon budget is cut . . . a skeleton crew will settle down to maintaining requested modifications and additions to the two hospital ships.

Configuration management philosophy speaks of controlling `unnecessary changes'. It is increasingly apparent that such changes must not only be viewed in an engineering, technical, or medical sense, but also in a funding sense. An unnecessary change might be one in funding in unstable or remote.

Configuration management does address the impact of changes on logistic support in a system, in this case the two hospital ships. A proposed change might also be viewed as an unnecessary one if the funding for the original modification is unknown or probabilistic, the funding for logistic support and life-cycle cost can only be more of an unknown. These considerations should be discussed when deciding whether to invest the time, effort, and money into proposing a documented configuration management change and forwarding it up the chain of command for approval.

O. SIMA - SHORE INTERMEDIATE MAINTENANCE FACILITY

Configuration management changes have also occurred in the hospital ship program between the date of acceptance of a vessel after work was completed at NASSCO, and the departure

date of the USNS MERCY for it's humanitarian deployment to the Philippines. Configuration management is very important when a series of ships in a class are being constructed and feedback from the fleet is used to aid construction in subsequent ships.

The hospital ship program is unique (once again using that overworked phrase) in that only two ships are being constructed, one right after the other, with only limited operational deployment feedback to aid in the construction of the sister ship. Each ship will operate in widely different environmental conditions and potential strategic scenarios. The USNS MERCY will operate in the tropical climate of the Pacific Ocean while the USNS COMFORT will operate in the colder North Atlantic Ocean. The USNS MERCY will most likely have to transit several thousand miles before reaching a potential combat zone while the USNS COMFORT will have to transit in a few short days to Europe to support any potential NATO combat scenarios.

Some of these factors will influence configuration management and control of the two ships. Even the specific 'personality' of each ship's crew, and command influence, can influence configuration management of a hospital ship. Example of some of these influences is demonstrated by the modifications made to the USNS MERCY at the Shore Intermediate Maintenance Activity (SIMA), Naval Station, San Diego.

The USNS MERCY was affected by the timing of the humanitarian deployment and the resulting rush to depart San Diego on time in February 1986. Much of the work completed at SIMA was out-of-scope on the NASSCO contract but considered necessary for the humanitarian deployment. An example of this would be expanded general storage areas throughout the ship. In contrast, USNS COMFORT will not install specific additional storage areas until a specific operational assignment is made and the overall logistic requirements are known.

Command influence or crew climate plays a large role in the configuration of MSC and MTF administrative spaces which will be different on each ship. Many of the changes can be broken out in a separate list that can be shown to directly result from the Board of Inspection and Survey (INSURV), while others will be lumped together on the SIMA list or Post Delivery Availability work list. There were a multitude of Technical, Political and Cultural influences at work in interactions between SUPSHIP, the USNS MERCY, MSC, COMNAVMEDCOM, NAVSEASYSCOM, OPNAV, SECNAV, INSURV and the various 'visitors' from each of these political bodies.

It is beyond the scope and depth of this thesis to attempt to trace each change to each interested party. This thesis will list the changes to give a 'taste' of the changes involved. Appendix E lists the changes completed or contemplated at SIMA San Diego before the USNS MERCY departed

for the Philippines. The bottom line technical-political-cultural cost of these changes was $449,630.10 [Ref. 66]

Appendix E also lists the changes to be completed during the Post Delivery Availabiltiy period after the USNS MERCY returns from the Philippines and homeports at the MSC facility in Oakland.

Many of the changes were the result of INSURV inspections, while others could not be completed at SIMA due to time or, material constraints. The TPC influences of the INSURV Board were particularly interesting due to Technical interpretations of military versus commercial standards, apparent Political friction between the INSURV Board and NAVSEASYSCOM, and Cultural influences of inspecting US Navy combatants/auxillaries versus a hospital ship. Not much more can be written due to the reluctance of all parties concerned to talk about specific issues. Suffice it to say that a large number of 'safety items' were generated by the INSURV Board for NAVSEASYSCOM to correct.

A Navy Times Article [Ref. 67:p. 22] mentioned some of the items to be added to the Post Delivery Availabilty list that were discovered during the humanitarian deployment. The article stated that "the ship is capable of receiving casualties in wartime and of caring for them" Among the changes mentioned were:

several alterations, including changing some gravity-fed medical equipment that doesn't operate properly in rough seas and mounting an eyeglass lens grinder on gimbals. Another may be to cut an opening near the waterline so patients can be brought into the ship by boat. At present the most convenient access to MERCY is by helicopter. A second alteration may be to subdivide the giant ballast tanks. When in heavy seas, water sloshing in the tanks caused the ship to roll more than it should.

P. SUMMARY

The author asserts that only by understanding the nature and influences within and without the hospital ship project can a sound basis be prepared for the future logistics support of the hospital ships. Configuration management and control is the methodology for channeling the TPC influences into the end product of a hospital ship. It is a continuing configuration management program that will be of great benefit to the individual hospital ship commands, and the Naval Medical Command as a whole.

Although this thesis is restricted to identifying the TPC influences and the management approval mechanisms they are funneled through, there is an overall long term goal. Dean [Ref. 68:p. 21] states it succinctly as "The purpose of configuration management, at the bottom line, is to ensure the continuing logistics supportability of systems in the government inventory."

One of the specific recommendations to result from the thesis research is to recommend the writing of an instruction

covering configuration management in a military health care system.

There is precedence for writing a separate instruction on configuration management for the hospital ships. NAVMATINST 9020.1B entitled "Standards in Shipboard Command and Control Space Configurations" [Ref. 70:p. 1] "requires that application of configuration management be tailored, carefully, total Navy material involved".

The Commander, Naval Sea Systems Command (COMNAVSEA) is directed to:

1. Conduct studies covering as many ship types and classes as necessary for the purpose of determining operational requirements and developing optimum standard arrangements for each ship type and class,

2. Develop standards which cover installations or various ship types,

3. Establish documentation requirements, and provide procedures to support each arrangement, and

4. Issue directives and monitor progress . . . and adhere to the configurations and standards prescribed.

Since the Military Sealift Command has an established system for the hull, deck and equipment spaces it appears reasonable to have a specialized directive on configuration management on the USNS MTF in particular, and afloat MTF's in general. The ROS crews of the two hospital ships should be particularly interested in MTC C. M. during routine maintenance and space/equipment upgrade phases of the

hospital ships. Configuration management needs to be an ongoing effort on the two hospital ships.

As mentioned before, a formal configuration management system is an excellent way of managing the inevitable TPC influences in any ongoing or future medical treatment facility construction effort. There is support for such an idea in the configuration management field.

VI. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSION

The overall theme of thesis has been the management of change as expressed in the evolution of American and International hospital ships. In order to manage change in a health care environment one must first identify the various Technical, Political and Cultural (TPC) influences present in such an environment. The first step is to identify each influence and their discrete or combined effects on the project in question.

Configuration Management (CM) was selected as a management vehicle for identifying, controlling and coordinating TPC influences in constructing and operating American hospital ships. CM has the virtue of being an accepted and well established method for constructing and operating Department of Defense systems. Managers can utilize the procedures and integration mechanisms within CM to deal with TPC influences as they arise within the system life cycle.

Following a brief background on the use of the TPC Theory in a health care environment, the TPC Theory advocated by Tichy was then explained in some detail. While still only a meta-theory " . . . a framework for working with organizational problems . . . " [Ref. 1:p. ix], the thesis author uses TPC Theory to categorize the many pressures and

influences at work within the 1980's hospital ship program. TPC Theory provides a rationale to organize influences into three main categories. It also provides the idea of integration mechanisms to utilize the TPC influences in a productive way. The procedures of Configuration Management (CM) were thus viewed in a new perspective and the management and integrative aspects of CM were outlined.

The research delved into the historical evolution of American and International hospital ships. In each chapter it was the author's belief that the discrete and combined effects of TPC influences would be expressed in the final design configuration of the vessel and the onboard medical treatment facility. All TPC influences gleaned from the available literature were identified and discussed. The commentary was of a macro perspective due to the dearth of research materials available. Technical and Political influences were more readily identifiable than Cultural influences.

Chapter IV provided the best 'laboratory' for the utilization of TPC influences in a Configuration Management (CM) health care environment. The research effort was two pronged: 1) after the fact with the USNS MERCY and 2) an ongoing construction effort with the USNS COMFORT. Some literature was also available on the deployment phase of the USNS MERCY to the Philippines.

A much more detailed research effort and accompanying micro perspective was available in analyzing and identifying TPC influences in the 1980's hospital ship program. Voluminous CM data and documentation was also available to observe the effects of various TPC influences within and without the hospital ship project. The detailed discussion of TPC influences in Chapter IV and the management mechanisms of Configuration Management in Chapter V have lead the author to make the recommendations listed in the following section. Hopefully the thesis research into a pragmatic application of TPC Theory to this type of health care environment will contribute to the movement of TPC Theory from a meta-theory to a more formal theory.

B. RECOMMENDATIONS

1. Future construction of hospital ships should include a formal performance feedback mechanism between hospital ships deployed and hospital ships still under construction. Such feedback will result in improved Configuration Management in minimizing unnecessary changes, and in improving modifications still under construction.

2. Liaison planning between the Board of Inspection and Survey (INSURV) and the program sponsor (OPNAV) must be greatly improved regarding inspection standards in judging future hospital ships built to Commercial, Bureau of American Shipping, U. S. Coast Guard, Military Sealift Command, and Military Standards.

3. The Naval Sea Systems Command and the Supervisor of Ship Building should develop a formal matrix plan listing all conflicting standards and specifications. This plan would function as an aid in resolving conflicts in the construction of future hospital ships.

4. The Office of the Surgeon General and Commander, Naval Medical Command should develop a Medical/Dental Configuration Control Board whose decisions are final. The composition of the Board is not as important as the need to have one point-of-control with the Naval Sea Systems Command in the construction of future hospital ships.

5. All Configuration Management changes should be reviewed with probability of successfully obtaining funding for the proposed change with review mechanisms in place at the SUPSHIP, NAVSEA and OPNAV levels of approval. Consideration of funding the proposed change should include logistic support, and life cycle cost consequences, not just the original cost of the modification.

6. NAVMEDCOM and MSC proposals for Configuration Management changes as inputs into the CM process should include 'financial impact statements' with original cost, logistic support and life cycle costs, and identifying funding sources and (initial) probability of success in obtaining such funding. Such a procedure helps justify a modification as 'needed'.

7. At the various levels of approval for different Configuration Management changes, a review mechanism should rank and prioritize all requests, not only on engineering, technical and medical grounds, but also on financial grounds. This aids in utilizing the Configuration Management process in a 'systems approach' instead of viewing each proposed change and its impact in isolation.

8. NAVSEA should maintain an archive of all proposed, implemented and discarded Configuration Management changes to the hospital ship project. This goes beyond the minimum required by Configuration Management regulations with the emphasis on the history and alternative rationales for the decision to implement, or not to make the change. One example would be the documented reasoning for the actual and proposed changes to the four (published and unpublished) revisions of the 'Circular of Requirements for Afloat Definitive Care Facility T-AH (x)'.

9. After the hospital ships enter their respective home ports in a reduced operating status, copies of the Configuration Management archive should be transferred to the Military Sealift Command maintenance facility in charge of each ship and to the Command of each hospital ship. Proposed changes can be measured against the archive rationale for deferral or rejection when Configuration Management changes are contemplated at future SUPSHIP or SIMA facilities.

10. An education and awareness campaign should be a duty of future hospital ship commands on Configuration Management procedures and philosophy in general, and the timing of changes in particular. This program would be directed at MSC, NAVMEDCOM, OPNAV and the operational command in the area.

APPENDIX A

USNS MERCY

FACT SHEET

Principal Characteristics:
Length Overall.....894'- 0"
Beam.....105'- 9"
Draft, Design.....32'- 9"
Displacement (S.W. at Design Draft).....69,360 Long Tons
Speed (at 80% ABS SHIP, Design Draft).....17.5 knots

Mission:

Primary Mission: To provide acute medical and surgical car in support of Rapid Deployment Forces, U.S. Marine Amphibious Task Forces, and Forward Deployed Navy Fleet activities located in hostile areas.

Secondary Mission: To provide a full-service hospital facility that can be deployed world-wide to support disaster relief operations.

Patient Care Facilities:

Patient care wards (each ship)
- Intensive Care Wards.....80 beds
- Recovery Wards.....20 beds
- Intermediate Care Wards.....280 beds
- Light Care Wards.....120 beds
- Limited Care Wards.....500 beds
- Total Patient Capacity.....1000 beds

Operating rooms (each ship).....12

The following major Departments and Facilities are provided on each ship:

Casualty Reception
Radiological Services
Main laboratory plus satellite lab
Central sterile receiving
Medical supply/pharmacy
Physical therapy and burn care
Dental service
Optometry/lens lab
Morgue
Laundry
Oxygen producing plants (two)

Hull Arrangement:

Raised forecastle, transom stern, bulbous bow, extended deckhouse with forward bridge, helicopter landing deck with flight control facility.

Accommodations for 68 ship operating crew and 1508 medical support personnel.

Propulsion Plant:

Main propulsion type.....Single screw, geared steam turbine

Shaft Horsepower.....24,500

Fuel.....DFM

Endurance (at sustained speed).....13,420 nautical miles

Additional features include three 2000 KW auxiliary diesel generators for medical space support, with one 1500 KW emergency diesel generator for backup; one 1000 KW ship's service turbo-generator with one 750 KW emergency diesel generator for backup; four 75,000 gallon per day distilling plants; and three 400 ton air conditioning plants.

Hull Machinery:

Two forward and two aft mooring winches
Nine 7500 pound capacity elevators
Two 1000 pound capacity medical supply lifts
One 3 ton stores crane
electro-hydraulic patient litter handling hoist

Navigation and Communication:

Two radars
Collision avoidance systems
Satellite navigator
Radio direction finder
Air control and aviation navigation aids including TACAN
Gyro compass, course recorder and repeaters
Dual control gyropilot steering system
Doppler sonar speed log
Rate-of-turn indicator

Safety Equipment:
  Firemain system throughout ship
  Halon flooding in diesel engine enslosures and O2
  Foam system in machinery spaces
  AFFF system for helo deck

  Lifeboats
  Life rafts
[Ref. NASSCO Tour Package]

Figure 1.1 USNS Mercy.

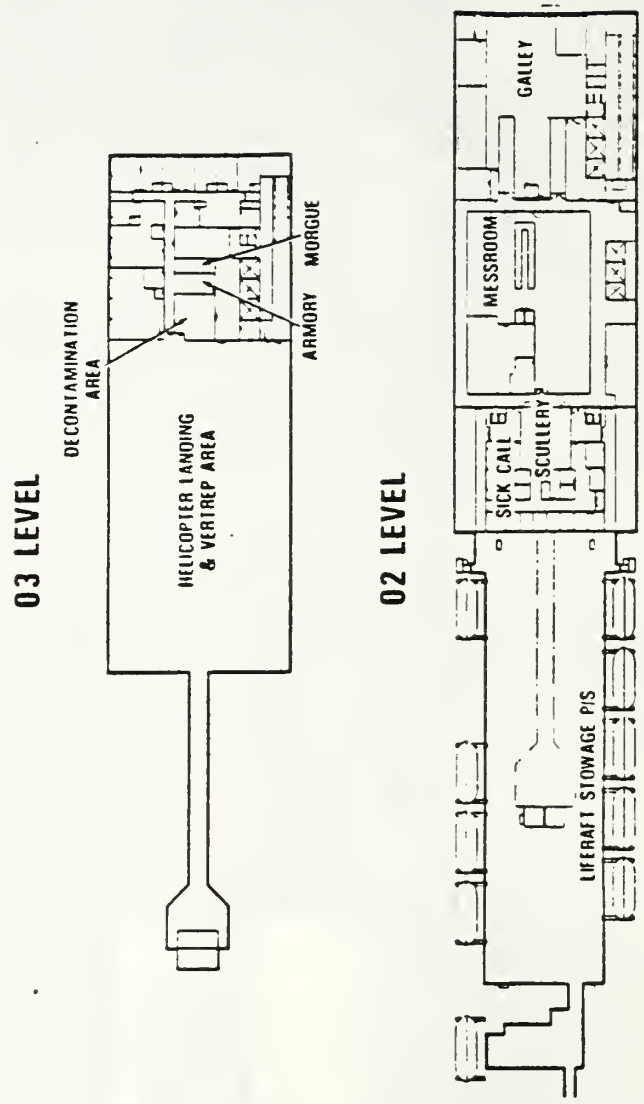

Figure 1.2 Deck Arrangements.

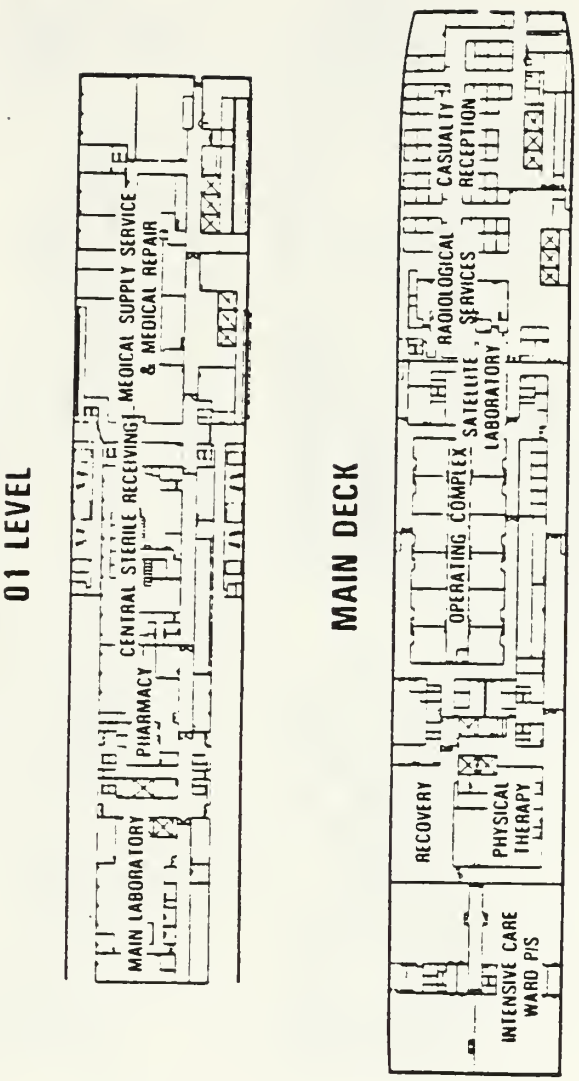

Figure 1.3 Deck Arrangements.

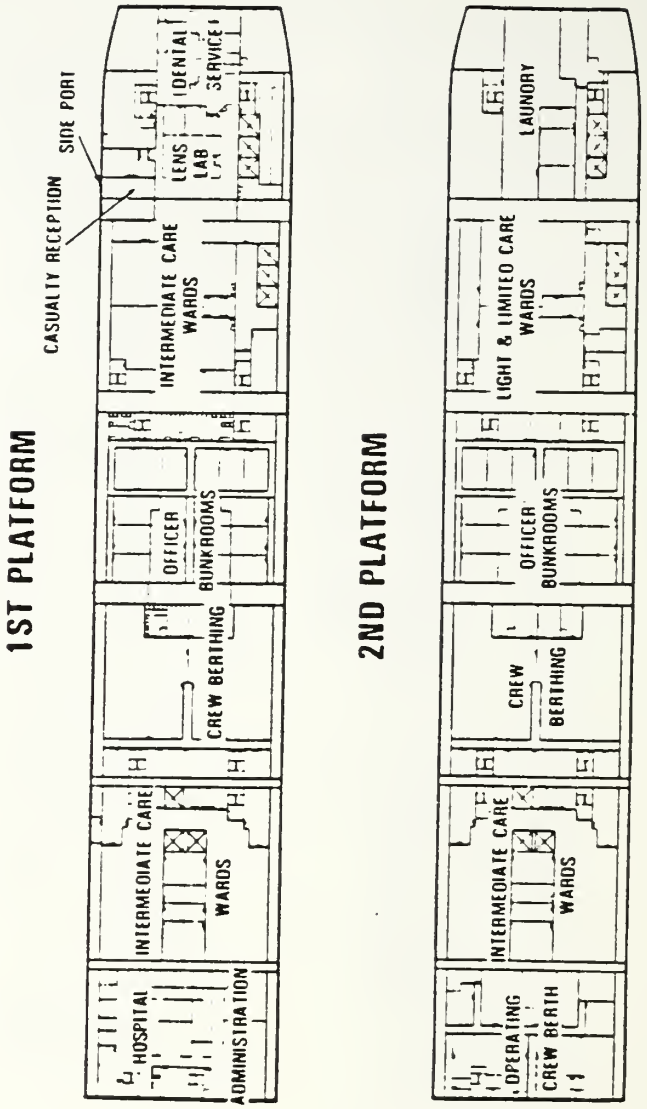

Figure 1.4 Deck Arrangements.

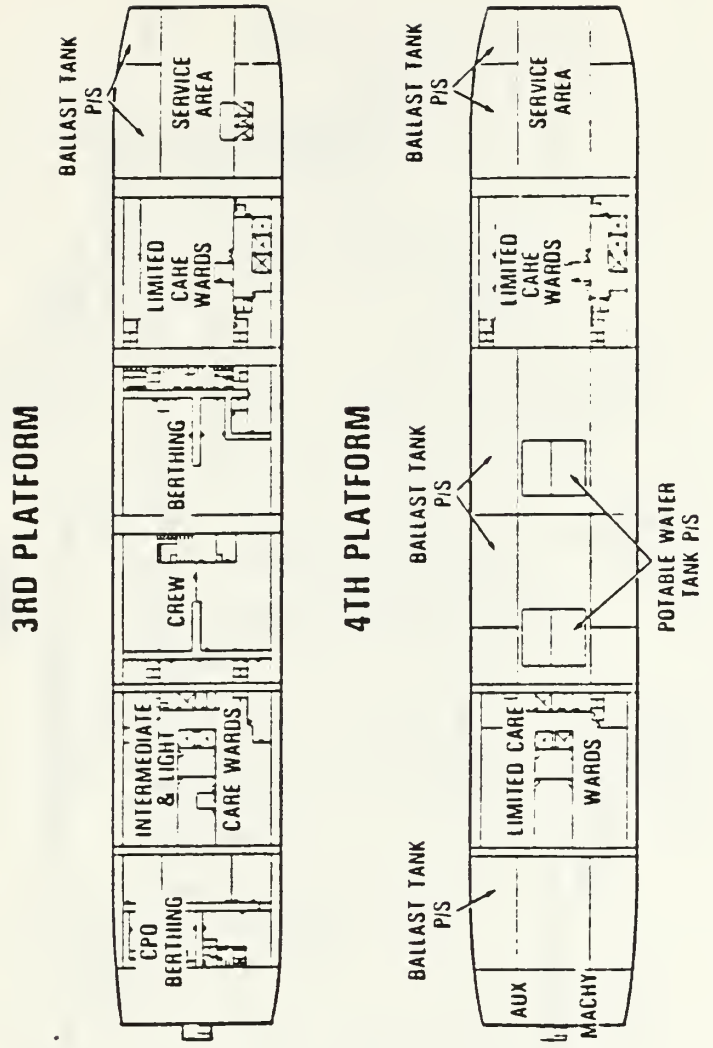

Figure 1.5 Deck Arrangements.

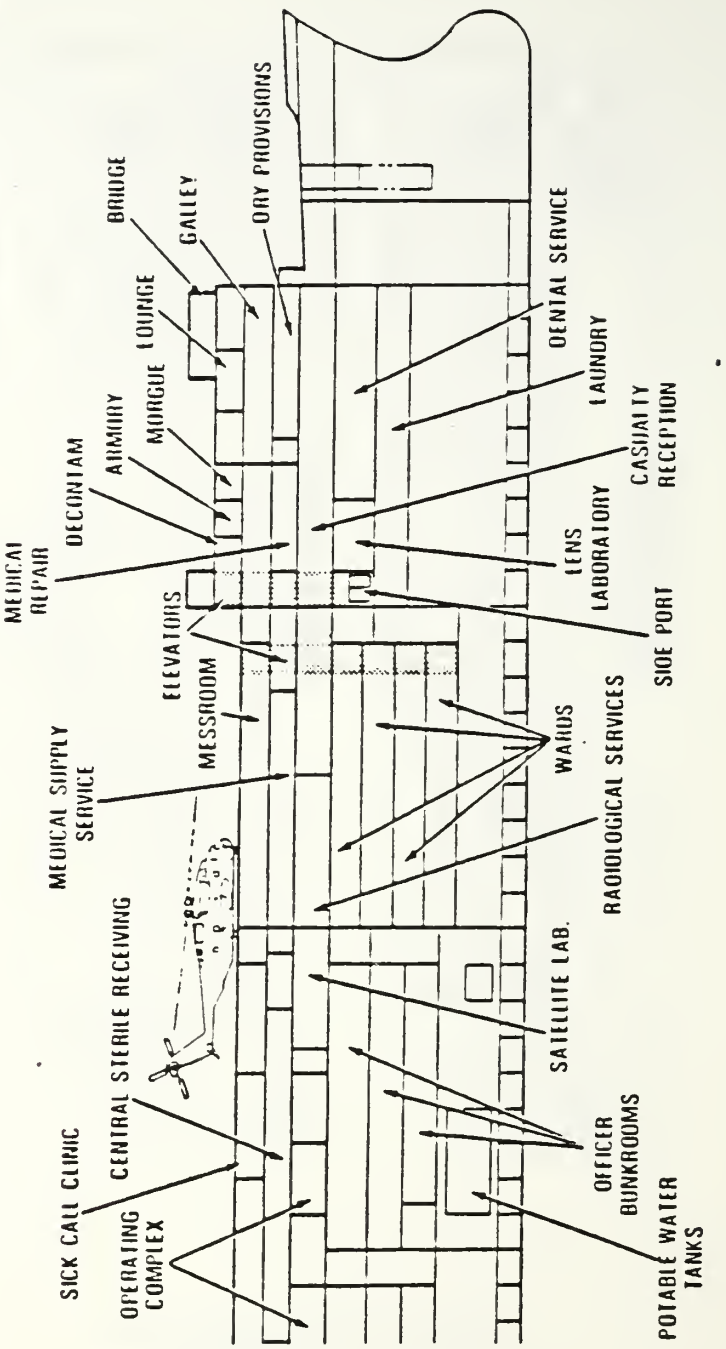

Figure 1.6 Bow Inboard Profile.

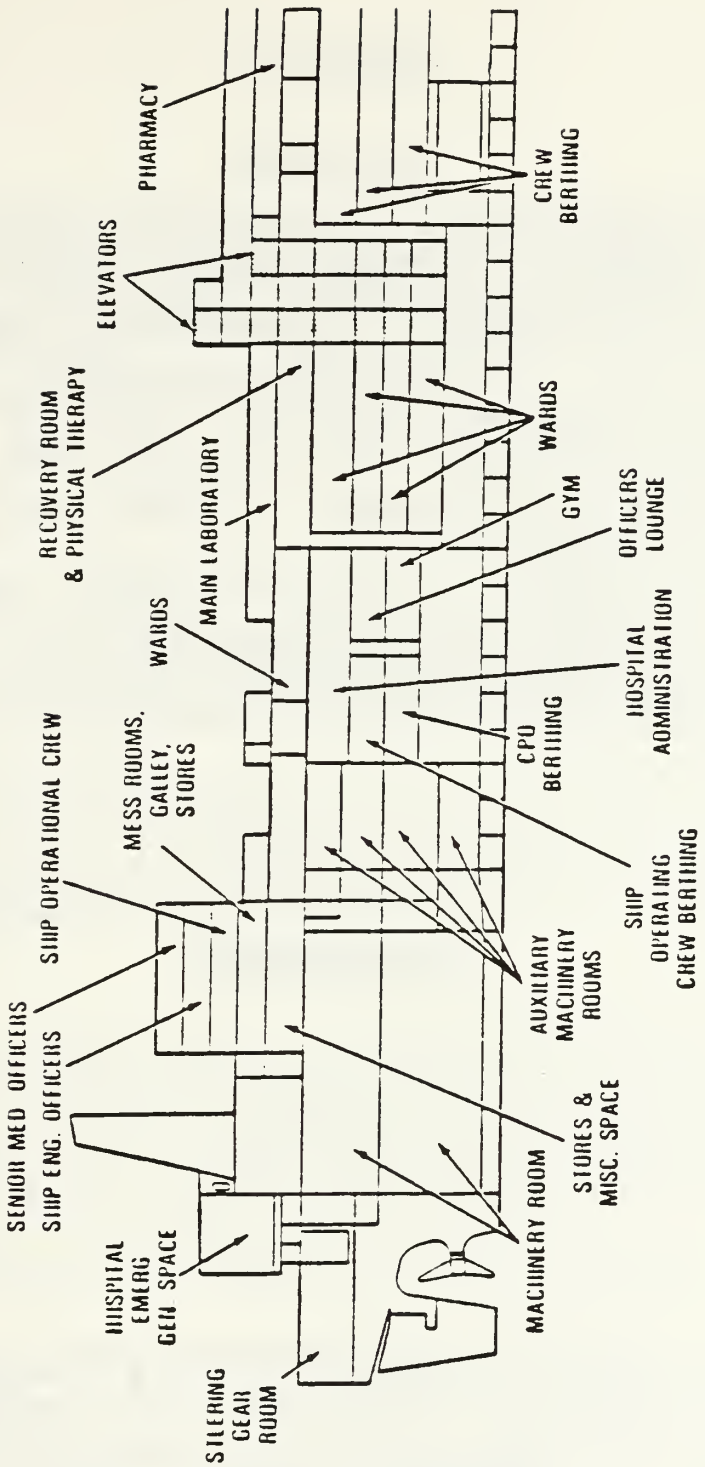

Figure 1.7 Stern Inboard Profile.

APPENDIX B

DISCLAIMER

The appended NAVSEASYSCOM contract excerpts, configuration management documents and SIMA San Diego modifications do not reflect final settlement costs! They are enclosed in the thesis only to give some idea of the bottom line financial impact of TPC influences in the hospital ship project. Any and all figures could remain the same, go up, or down--final settlement on such a contract can take up to ten years to complete.

STANDARD FORM 30, JULY 1966
GENERAL SERVICES ADMINISTRATION
FPR (41 CFR) 1-16.101

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

PAGE 1 OF 2

1. AMENDMENT/MODIFICATION NO.	2. EFFECTIVE DATE	3. REQUISITION/PURCHASE REQUEST NO.	4. PROJECT NO. (If applicable)
P0001	See Blk 19	N00024-83-PR-04687	3-0212-04687

5. ISSUED BY	CODE	6. ADMINISTERED BY (If other than block 5)	CODE
Commander, Naval Sea Systems Command Washington, D.C. 20362 Buyer/Symbol: K. J. O'Neill /SEA 02 24 Phone: Area Code 202/692-7517	N00024	Supervisor of Shipbuilding, Conversion and Repair, USN Naval Station, Box119 San Diego, CA 92136	N62791

7. CONTRACTOR NAME AND ADDRESS — CODE 81220 — FACILITY CODE

(Street, city, country, state, and ZIP Code)

National Steel & Shipbuilding Co.
Harbor Drive & 28th Street
San Diego, CA 92138

8. ☐ AMENDMENT OF SOLICITATION NO. _____

DATED _____ (See block 9)

☒ MODIFICATION OF CONTRACT/ORDER NO. N00024-83-C-2094

DATED 29 June 83 (See block 11)

9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers ☐ is extended, ☐ is not extended.

Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods:

(a) By signing and returning _____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

10. ACCOUNTING AND APPROPRIATION DATA (If required)

N/A

11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS

☐ This Change Order is issued pursuant to _____

The Changes set forth in block 12 are made in the above numbered contract/order.

☐ The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation date, etc.) set forth in block 12.

☒ This Supplemental Agreement is entered into pursuant to authority of the mutual agreement of the parties

It modifies the above numbered contract as set forth in block 12.

12. DESCRIPTION OF AMENDMENT/MODIFICATION

[redacted]

WHEREAS, the contractor's proposal for this contract was based on the conversion of San Clemente Tankers in accordance with the provisions of this contract and the contractor's proposal and the prices set forth in this contract are based on acquisition of these vessels from Apex Marine Corporation, First Pennsylvania Bank N.A. (as trustee), Worth Oil Transport Company, and Northwest Shipping Corp. (collectively "Apex") for an estimated acquisition cost of $30 million for each vessel based on the vessels meeting the classification of the American Bureau of Shipping (ABS) in effect on the date of Agreement of Sale between the Contractor and such other certification from the Coast Guard as would be necessary if the vessel were to remain in service as a commercial tank vessel,

NOW, THEREFORE, the contractor agrees to use his best efforts to acquire the vessels from Apex for an acquisition cost of less than $30 million per vessel.

Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.

13. ☐ CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT ☒ CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 2 COPIES TO ISSUING OFFICE

SEA 02 24 Return within 5 days as requested.

14. NAME OF CONTRACTOR/OFFEROR	17. UNITED STATES OF AMERICA
BY [signature] (Signature of person authorized to sign)	BY [signature] (Signature of Contracting Officer)

15. NAME AND TITLE OF SIGNER (Type or print)	16. DATE SIGNED	18. NAME OF CONTRACTING OFFICER (Type or print)	19. DATE SIGNED
A.W. LUTTER, JR.	29 JUN 1983	K. J. O'NEILL Contracting Officer	29 JUN 1983

FURTHER, if the contractor acquires any vessel to be converted for a cost less than $30 million based on the vessel's meeting the standards described in the first paragraph above, the contract price for the ships under this Contract will be reduced by an equitable adjustment to cover the difference between $30 million and the contractor's cost for the vessel.

The contractor is to advise the Procuring Contracting Officer within 120 days of this modification of the actions taken to implement the above and to reduce the acquisition costs of the vessels to be converted under this contract. The contractor shall promptly notify the Procuring Contracting Officer of any circumstances that prohibit the successful accomplishment of the above or which may affect delivery of the ships.

SOLICITATION, OFFER AND AWARD | RATING DO-A3 | 1 | 120

1 CONTRACT (Proc. Inst. Ident.) NO	2 SOLICITATION NO	3 DATE ISSUED	4 REQUISITION/PURCHASE REQUEST NO
	N00024-83-R-2094(S) ☐ ADVERTISED (IFB) ☒ NEGOTIATED (RFP)		3-383A-23809 P.R. N00024-83-PR-23809

5 ISSUED BY: CODE N00024
SEA SYSTEMS COMMAND
DEPARTMENT OF THE NAVY
WASHINGTON, D. C. 20362
BLDG/SYMBOL: Mr. R. Swieter
PHONE: Area Code 202 692-7517 SEA 0224

6 ADDRESS OFFER TO (If other than Item 5)
DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND, SEA 0215
NATIONAL CENTER BLDG. #3, ROOM 5E40
WASHINGTON, D. C. 20362

SOLICITATION

7 Sealed offers in original and 1 Signed/Copy for furnishing the supplies or services in the Schedule will be received at the place specified in Item 6, or if hand carried, in the depository located in (See Block #8) until 2:00 P.M. Eastern 6 April 1983.
(Hour) (Date)

If this is an advertised solicitation offers will be publicly opened at that time.
CAUTION — LATE OFFERS: See par. thereof of Solicitation Instructions and Conditions.
All offers are subject to the following:

1. The Solicitation Instructions and Conditions, SF 33 A Rev. 1-78 edition which is attached or incorporated herein by reference.
2. The General Provisions which are attached or incorporated herein by reference.
3. The Schedule including herein and/or attached hereto.
4. Such other provisions, representations, certifications, and specifications as are attached or incorporated herein by reference.
(Attachments are listed on schedule)

FOR INFORMATION CALL (Name & telephone no.) (No collect calls) ▶ (See Paragraph 21(b) of Section L)

TABLE OF CONTENTS

(X)	SEC	DESCRIPTION	PAGE	(X)	SEC	DESCRIPTION	PAGE
		PART I - THE SCHEDULE				PART II - GENERAL PROVISIONS	
X	A	Contract Form	1	X	I	General Provisions	72
X	B	Supplies or Services and Prices/Costs	2			PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS	
X	C	Description/Specs./Work Statement	3	X	J	List of Documents, Exhibits and Other Attachments	82
X	D	Packaging and Marking	6			PART IV - REPRESENTATIONS AND INSTRUCTIONS	
X	E	Inspection and Acceptance	6	X	K	Representations, Certifications and Other Statements of Offerors	83
X	F	Deliveries or Performance	7	X	L	Instructions, Conditions and Notices to Offerors	96
X	G	Contract Administration Data	8	X	M	Evaluation Factors for Award	121
X	H	Special Provisions	9				

OFFER (Must be fully completed by offeror)

In compliance with the above, the undersigned agrees, if this offer is accepted within ____ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

12 DISCOUNT FOR PROMPT PAYMENT (See par. 5 of SF 33 A)
___ % 10 CALENDAR DAYS ___ % 20 CALENDAR DAYS ___ % 30 CALENDAR DAYS ___ CALENDAR DAYS

13 OFFEROR	CODE	FACILITY CODE	14 NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)
National Steel and Shipbuilding Company Harbor Drive and 28th Street San Diego, CA 92138 15 TELEPHONE NO ▶ (619) 232-4011 DUNS #00-915-8932 ☐ Check if remittance address is different from above - Refer to Section G			S. D. Timmons Senior Vice President Business Affairs
			15 SIGNATURE: S. D. Timmons
			16 OFFER DATE: 6-10-83

AWARD (To be completed by Government)

17 ACCEPTED AS TO ITEMS NUMBERED	18 AMOUNT	19 ACCOUNTING AND APPROPRIATION DATA
0001, 0002 and 0003	$136,221,020	See Attached

20 SUBMIT INVOICES (4 copies unless otherwise specified) TO ADDRESS SHOWN IN BLOCK 26	21 NEGOTIATED PURSUANT TO	X	10 USC 2304(a)(10)
			41 USC 253(c)( )

22 ADMINISTERED BY (If other than Item 5) CODE N62791	23 PAYMENT WILL BE MADE BY CODE N00179
Supervisor of Shipbuilding, Conversion and Repair, USN Naval Station, Box 119 San Diego, CA 92136	

24 NAME OF CONTRACTING OFFICER (Type or print)	25 UNITED STATES OF AMERICA	26 AWARD DATE
R. J. O'NEILL Contracting Officer	BY (Signature of contracting officer)	29 JUN 1983

...MENT OF AMENDMENTS ... or acknowledges receipt ...endments to the Solicitation offers and related documents ...ered and dated as follows:	Amendment No.	Date	Amendment No.	Date
	A001	3/15/83	A003	5/5/83
	A002	4/13/83	A004	5/16/83

SECTION B - SUPPLIES/SERVICES AND PRICES

SCHEDULE

NO.	SUPPLIES/SERVICES	QUANTITY	AMOUNT
	Conversion of one T-AH 19 Class Hospital Ship	1	$183,221,020.00
	Repair parts, Equipment - Unique Tools, Test Equipment, Equipage and Consumables	1 Ship Set	$3,000,000.00
	Data for Items 0001 and 0002 (See Attachment "A", DD Form 1423, and Attachment "B" hereto) NSP - Price inlcuded in price of Items 0001 and 0002		INCLUDED ABOVE
ON			
	Conversion of one T-AH 19 Class Hospital Ship	1	$155,576,796.00
	Repair parts, Equipment - Unique Tools, Test Equipment, Equipage and Consumables	1 Ship Set	$3,000,000.00
	Data for Items 0004 and 0005 (See Attachment "A", DD Form 1423, and Attachment "B" hereto) NSP - Price included in price of Items 0004 and 0005		INCLUDED ABOVE
	TOTAL AMOUNT		$344,797,816.00

A: Option Items to which the clause entitled "OPTION FOR INCREASED QUANTITY" is applicable and which is to be supplied only if and to the extent said option is exercised.

Standard Form 33 (REV 3-77)
2 (Exception to SF 33, Approved by NARS 9-25-78)

STANDARD FORM 30, JULY 1966
GENERAL SERVICES ADMINISTRATION
FED PROC REG (41 CFR) 1-16.101

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

PAGE 1 OF 1

1. AMENDMENT/MODIFICATION NO.	2. EFFECTIVE DATE	3. REQUISITION/PURCHASE REQUEST NO.	4. PROJECT NO. (If applicable)
004	16 May 83	N00024-83-PR-23809	

5. ISSUED BY CODE N00024
Sea Systems Command, Department of
Navy, Washington, D.C. 20362
/Symbol: /SEA-02
Phone: Area Code 202-692-

6. ADMINISTERED BY (If other than block 5) CODE

7. CONTRACTOR NAME AND ADDRESS CODE FACILITY CODE
(Street, city, county, state, and ZIP Code)

8. [X] AMENDMENT OF SOLICITATION NO. N00024-83-R-2094(S)
DATED 27 JAN 83 (See block 9)
[ ] MODIFICATION OF CONTRACT/ORDER NO.
DATED (See block 11)

9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS
[X] The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers [ ] is extended, [X] is not extended.
Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods:
(a) By signing and returning 2 copies of this amendment (b) By acknowledging receipt of this amendment on each copy of the offer submitted, or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

10. ACCOUNTING AND APPROPRIATION DATA (If required)

11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS
(a) [ ] This Change Order is issued pursuant to
The Changes set forth in block 12 are made to the above numbered contract/order.
[ ] The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation date, etc.) set forth in block 12
[ ] This Supplemental Agreement is entered into pursuant to authority of
It modifies the above numbered contract as set forth in block 12.

12. DESCRIPTION OF AMENDMENT/MODIFICATION
Solicitation N00024-83-R-2094(S) is hereby modified as follows:

1. Circular of Requirements for Hospital Ship T-AH(X), dated 21 October 1982, pages 19, C-1, C-2, C-4, D-2, D-3, D-7, D-8 and D-9, delete in their entirety and replace with the attached revised pages 19, C-1, C-2, C-4, D-2, D-3, D-7, D-8 and D-9 respectively.

Except as provided herein, all terms and conditions of the document referenced in block 8 as heretofore changed, remain unchanged and in full force and effect

13. CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT [ ] CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN ____ COPIES TO ISSUING OFFICE

14. NAME OF CONTRACTOR/OFFEROR
BY S. D. Timmons
(Signature of person authorized to sign)

17. UNITED STATES OF AMERICA
BY
(Signature of Contracting Officer)

15. NAME AND TITLE OF SIGNER (Type or print)	16. DATE SIGNED	18. NAME OF CONTRACTING OFFICER (Type or print)	19. DATE SIGNED
S. D. TIMMONS SR. V.P. BUSINESS AFFAIRS	6-10-83		

30-101 U. S. GOVERNMENT PRINTING OFFICE : 1973 O - 486-[illegible]

14 July 1987

MEMORANOUM

From: EMC Steven A. Cushman

To: Lt. William Roberts

Subj: USNS Mercy's SIMA Availability jobs

1. Enclosed is a copy of the lessons learned letter by the Assistant Repair Officer in charge of Mercy's work. It refers to a Supply Dept. lessons letter, this letter was never written. Also enclosed is a list of the jobs we worked with some explanatory notes.

2. Accounting data given below includes the totals for contracted jobs and all material and parts SIMA ordered to complete the work.

UIC	AMOUNT
21636	$391,139.10
46245	58,491.00
	$449,630.10-TOTAL

3. Just in case you don't already have it, my point of contact with MSC was:

Mr. Jesse Cruz, Code P4E2
MSC-Pac
Bldg 310-5
Naval Supply Center
Oakland, Ca. 94625-5010

AV- 836-4878/9
COM- (415) 466-4878/9

4. If any other information or more detail is needed feel free to contact me again.

Very Respectfully,

EMC Steven A. Cushman

Commanding Officer
Shore Intermediate Maintenance Activity, San Diego
Naval Station, Box 106
San Diego, Ca. 92136-5106
ATTN: Code 2110

APPENDIX C

DISCLAIMER

The appended NAVSEASYSCOM contract excerpts, configuration management documents and SIMA San Diego modifications do not reflect final settlement costs! They are enclosed in the thesis only to give some idea of the bottom line financial impact of TPC influences in the hospital ship project. Any and all figures could remain the same, go up, or down--final settlement on such a contract can take up to ten years to complete.

DATE: September 23, 1987

T-AH 20

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

HMR NO. SER. NO. DATE	HOTRS EFF/ NECP	CHANGE DESCRIPTION	REMARKS	SUFSHIP FORWD DATE/ SER NO.	MOD NO. MOD DATE	REFERENCE DOCUMENT
HMR-001	H-001 DELET 10CM	RADAR SYSTEMS RADAR FOR AN/SPS-67 RADAR	100%	151-286 3/16/84	$11,781>	A00023 4 OCT 84
HMR-002	VECF-001 CARGO HOLD	PLATFORM DECK HEIGHTS 1,2,3,4,5,6	100%		$54,403-	A00009 5 APR 84 A00019 1 AUG 84
HMR-003	H-003	DISTILLING PLANT CAPACITIES INCREASE FROM 2 TO 4 75 GPD UNITS	100%		$2,691,989 $2,413,794	A00013 18 JUN 84 A00078 13 AUG 85
HMR-004.1	HN-001	TECHNICAL MANUALS (TM)	CANCELLED	1532/770 4/19/85	$1540	A00084 20 SEP 85
HMR-005	HN-002	CORL CHANGES	100%		$0	A00017 23 JUL 84
HMR-006	H-004	SHOWER FACILITIES IN O.R. COMPLEX	100%		$75,495	A00049 9 MAY 85
HMR-007	H-007	AUTHORIZED MEDICAL ALLOWANCE LIST (AMAL)	100%		$2,626,630	A00066
HMR-008	H-008	HELICOPTER STARTING AUXILIARY POWER UNIT (APU)	100%		$20,316	A00050 7 MAY 85
HMR-009	H-003	SCHEDULE A/C MODIFICATION AND CORL PAGE CORRECTION	100%		$1,461	A00070 25 JUL 85
HMR-010.1	H-009	MARINE SANITATION DEVICE (MSD)	95%		$12,095,904 $838,000 OPT MAX MOD	A00046 27 JUN 85
HMR-011.1	H-012	DENTAL CENTRAL EVACUATION SYSTEM	100%		$120,518	A00123 3 JAN 86
HMR-012	H-013	CORRECTION TO SCHEDULE A/C	100%		$1,662	A00103 18 NOV 85
HMR-013	H-015	INCREASE MED SUPPLY STOWAGE	100%		$7,566,840	A00222/A00335 20 NOV 86 29 MAY 87
HMR-014	H-017	LIFE RAFT MODIFICATION	100%		$335,291	A00172/A00198 18 JUN 86 10 OCT 86
HMR-015.1	HN-018	CHANGE TO APPENDIX A AND	100%		$4,679	A00184

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

HMR NO. SER. NO. DATE	HOTRS EFF/ NECP	CHANGE DESCRIPTION	REMARKS	SUFSHIP FORWD DATE/ SER NO.	MOD NO. MOD DATE	REFERENCE DOCUMENT
		TOL (CONTRACTOR FURNISHED)				17 SEP 86

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

HMR NO. SER. NO. DATE	HOURS ECP/ NECP	CHANGE DESCRIPTION	REMARKS	SUPSHIP FORWD DATE/ SER NO.	MOD NO. MOD DATE	REFERENCE DOCUMENT
		IOL (CONTRACTOR FURNISHED)				17 SEP 86
HMR-016	H-019	ADD SNAP II SYSTEM	CANCELLED SUPSHIP LTR 1530/1594 11/25/86			
HMR-017	H-020	COMPUTED AXIAL TOMOGRAPHY (CAT) SCANNER	CANCELLED SUPSHIP LTR 1532/841 5/22/86		$32,752	A00204 10 OCT 86
HMR-018	H-021	ACCEPTANCE TRIAL	50%		$742,772	A00213 27 OCT 86
HMR-019	H-022	CO2 BACKUP FREEZER TO REF BLOOD CELL FREEZERS	$38,046 100%			A00223 03 DEC 86
HMR-020	H-023	ACCOMMODATION LADDER PATIENT EMBARKATION	$541,732 95%			A00231 10 DEC 86
HMR-021	H-024	33 F1 U1 BOAT STOWAGE	$117,338 100% (T-AH 19 ONLY)			A00368 11 JUN 87
HMR 022	HN-025	POST DELIVERY AVAILABILITY	NOT ISSUED			SEE WTA-061
HMR-023	C-005	PROVIDE SHORE BASE SPARES	RA PROPOSAL REVIEWED ON 5/7/87		AWAIT NEGOTIATION	

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

HMR NO. HMR DATE	CHANGE DESCRIPTION	REMARKS	MOD NO. MOD DATE

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AN 19/20

FMR NO. FMR DATE	CHANGE DESCRIPTION	REMARKS	MOD NO. MOD DATE	
FMR-001 21 FEB 84	RELOCATION OF O2N2 PLANTS T-AH 19/20	NO COST	A00006 28 FEB 84	100%
FMR-002 05 JUN 84	DELETE CONTRACTORS REQUIREMENT TO FURNISH TOW TRACTORS	$71,073	A00025 10 OCT 84	100%
FMR-003 08 JUN 84	CONVERSION SPECIFICATION APPROVAL	NO COST	A00015 19 JUN 84 A00021 21 AUG 84	100%
FMR-004	NOT USED			
FMR-005.1 31 JUL 84	NO-BREAK POWER SUPPLY T-AH 19/20	$30,331	A00042 28 MAR 85	100%
FMR-006 09 OCT 84	MEDICAL GAS CYLINDER CARTS T-AH 19/20	$19,005	A00037 01 FEB 85	95%
FMR-007 10 OCT 84	WIND SPEED/DIRECTION INDICATOR SYSTEM T-AH 19/20	$112,623	A00033 21 DEC 84	100%
FMR-008 13 NOV 84	HOSPITAL SHIP MARKING T-AH 19/20	$1,831	A00038 05 FEB 85	100%
FMR-009 11 DEC 84	EXCESS PROPERTY T-AH 19/20	$44,611	A00047 07 MAY 85	90%
FMR-010 07 JAN 85	SEWAGE TREATMENT SYSTEM FEASIBILITY STUDY	ROM $58,000	A00034 17 JAN 85	100%
FMR-011 08 JAN 85	PATIENT BED TRAY T-AH 19/20	$76,904	A00045 25 APR 85	95%
FMR-012 CODE 410	PREP CHARGE FOR ECP C002 PORTABLE WTR TANKS	$4,722	A00052 24 MAY 85	100%
FMR-013 03 APR 85	UNDER WATER PAINT T-AH 19	$83,963 IDR 7430:726:801:00 OF 3/23/85	A00094	100%
FMR-014.1 29 MAY 85	EXPANDED METAL BLKHD 01 LEVEL T-AH 19/20	$68,005	A00069 25 JUL 85	100%
FMR-015.1 14 MAY 85	PAINTING REQUIREMENTS SERVICE AREA T-AH 19/20	$244,889	A00054 04 JUN 85	100%
FMR-016 2 MAY 85	REPAIR BOILER EXPANSION JOINTS ON T-AH 19	$27,984 IDR 7430:716:803:00 OF 3/30/85	A00091 08 OCT 85	100%
FMR-017 3 MAY 85	P/S ANCHOR WINDLASS ON T-AH 20	$73,380 IDR 7439:74/CS:800:00 OF 4/28/85	A00082 20 SEP 85	100%

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T AN 19/20

FMR NO. FMR DATE	CHANGE DESCRIPTION	REMARKS	MOD NO. MOD DATE

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

FMR NO. / FMR DATE	CHANGE DESCRIPTION	REMARKS	MOD NO. / MOD DATE	
FMR-018 3 MAY 85	FIRE & BUTTERWORTH PUMP ON T-AH 20	$8,581 IDR 7439:74/CS:801:00 OF 4/28/85	A00089 17 SEP 85	100%
FMR-019.1 3 MAY 85	BILGE & BALLAST PUMP ON T-AH 20	$4,950 IDR 7439:74/CS:802:00 OF 4/28/85	A00056 13 JUN 85	100%
FMR-020 3 MAY 85	FIRE & BUTTERWORTH & ACCESSORIES ON T-AH 20	$7,115 IDR 7439:74/CS:803:00 OF 4/28/85	A00060 16 JUL 85	100%
FMR-021 3 MAY 85	CLEAN BALLAST PUMP TURBINE ON T-AH 20	$11,262 IDR 7439:74/CS:804:00 OF 4/28/85	A00061 18 JUL 85	100%
FMR-022 13 MAY 85	#3 MOORING WINCH ON T-AH 19	$13,861 IDR 7438:74/CS:805:00 OF 4/30/85	A00076 12 AUG 85	100%
FMR-023 16 MAY 85	OPEN/INSPECT MOORING WINCHES #1,2,4,5 & 6 ON T-AH 19	NOT USED SEE LTR 410/1013 6/3/85		
FMR-024 16 MAY 85	OPEN/INSPECT MOORING WINCHES #1 THROUGH #6 ON T-AH 20	NOT USED SEE LTR 410/1030 6/3/85		
FMR-025 21 MAY 85	MAIN CONDENSER REPAIRS ON T-AH 20	$1,908 IDR 7439:74/CS:813:00 OF 5/12/85	A00062 16 JUL 85	100%
FMR-026.1 21 MAY 85	#1 MAIN CONDENSATE PUMP REPAIRS ON T-AH 20	$7,958 IDR 7439:74/CS:825:00 ON 5/12/85	A00077 12 AUG 85	100%
FMR-027 21 MAY 85	MAIN STEAM STRAINER REPAIRS ON T-AH 20	$1,014 IDR 7439:74/CS:814:00 OF 5/12/85	A00063 19 JUL 85	100%
FMR-028 21 MAY 85	TURBO GEN. SURF AIR COOLER REPAIRS ON T-AH 20	$2,516 IDR 7439:74/CS:815:00 ON 5/12/85	A00064 19 JUL 85	100%
FMR-029 21 MAY 85	#1 & #2 MN L.O. COOLER REPAIRS ON T-AH 20	$1,986 IDR 7439:74/CS:820:00 ON 5/12/85	A00065 19 JUL 85	100%
FMR-030 21 MAY 85	CONTROL AIR COMPRESSOR REPAIRS ON T-AH 20	$2,883 IDR 7439:74/CS:821:00 ON 5/12/85	A00067 1 AUG 85	100%
FMR-031 21 MAY 85	CLEAN BALLAST PUMP LIQUID END REPAIRS ON T-AH 20	$632 IDR 7439:74/CS:823:00 ON 5/12/85	A00068 1 AUG 85	100%
FMR-032 23 MAY 85	OPEN/INSPECT MAIN PROPULSION EQUIPT ON T-AH 19	$10,820	A00072 1 AUG 85	100%
FMR-033	OPEN/CLOSE MAIN REDUCTION GEAR ON T-AH 20	$30A DECK PLATE	A00055 04 JUN 85	100%
FMR-034 4 JUNE 85	REPAIR PORT/STBD STORES DAVIT ON T-AH 20	$12,721 IDR 7439:74/CS:836:00 ON 5/27/85	A00073 6 AUG 85	95%
FMR-035 6 JUNE 85	REPAIRS TO H.P. TURBINE ON T-AH 20	$23,065 IDR 7439:74/CS:829:00 OF 5/21/85	A00092 08 OCT 85	100%

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FMR-036 13 JUN 85	REPAIRS F/S STORE DAVITS ON T-AH 19	$12,721 MSC MEMO 4/9/85	A00074 6 AUG 85	100%
FMR-037 14 JUN 85	REPAIRS TO L.P. TURBINE ON T-AH 20	$45,047 IMR 7439:74/CS:830:00 ON 5/21/85	A00085 19 SEP 85	100%
FMR-038 17 JUN 85	BOILER INNER STACK ON T-AH 19	$99,996 IMR 7438:74/CS:803:00 ON 3/30/85	A00086 30 AUG 85	95%
FMR-039 1 JUL 85	#2 MN CIRC PUMP ON T-AH 20	$11,169 IMR 7439:74/CS:811:00 ON 5/12/85	A00079 19 AUG 85	95%
FMR-040 1 JUL 85	TURBO GEN REDUCTION GEAR ON T-AH 20	$14,165 IMR 7439:74/CS:822:00 ON 5/12/85	A00087 17 SEP 85	100%
FMR 041 15 JUL 85	OLANN EXHAUSTED CONDENSER ON T-AH 20	$3,960 IMR 7439:74/CS:839:00 ON 6/9/85	A00083 19 SEP 85	100%
FMR-042 18 JUL 85	MONITORS, STRIP CHART RECORDER ON T-AH 19/20	$237,287	A00075 31 JUL 85	95%
FMR-043 24 JUL 85	REPAIRS TO TURBO GEN TURBINE ON T-AH 20	$12,661 IMR 7439:74/CS:838:00 ON 6/9/85	A00104 19 NOV 85	100%
FMR 044 24 JUL 85	REPAIRS TO #2 MN FEED PUMP ON T-AH 20	$38,486 IMR 7439:74/CS:840:00 ON 6/9/85	A00096 10 OCT 85	100%
FMR 045 7 AUG 85	AUX DIESEL GEN-DUPLEX STRAINER T-AH 19/20	$993 CANCELLED SUFSHIP LTR 1532/1628 9/19/85	A00100	100%
FMR-046 7 AUG 85	FEASIBILITY STUDY FOR MED STOWAGE T-AH 19	$12,029	A00087 12 SEP 85	100%
FMR 047 12 AUG 85	SPECIFICATION MODIFICATIONS T-AH 19	NO COST	A00080 14 AUG 85	100%
FMR-048 21 AUG 85	LIFEBOAT MARKINGS T-AH 19/20	$16,694	A00111 22 NOV 85	100%
FMR-049	F.O. REGULATING VALVE T-AH 19/20	$487 CANCELLED SUFSHIP LTR 1532/1589 9/13/85	A00101	100%
FMR-050 12 SEP 85	CANCELLATION CHARGE FOR ECP FREP--L.O. COOLER/PUMP	$1,810	A00093 08 OCT 85	100%
FMR-051 12 SEP 85	OPEN INSPECT REDUCTION GEARS T-AH 20	$1,303	A00095 10 OCT 85	100%
FMR-052 13 SEP 85	PAINT POTABLE & DISTILLED WTR TANKS T-AH 19	$17,039 IMR 7438:72/CS:821:00	A00201 30 OCT 86	100%
FMR-053	REPAIR TO #4 MOORING WINCH	$22,340	A00113	100%

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12 SEP 85	T-AH 19	IMR 7439:74/CS:819:00	04 SEP 85	

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17 SEP 85	T-AH 19	IDR 7438:74/CS:819:00	04 DEC 85
FMR-054 17 SEP 85	REPAIR TO #5 MOORING WINCH T-AH 19	$21,014 IDR 7438:74/CS:818:00	A00105 100% 19 NOV 85
FMR-055 17 SEP 85	REPAIR TO #6 MOORING WINCH T-AH 19	$19,395 IDR 7438:74/CS:820:00	A00106 100% 18 NOV 85
FMR-056 26 SEP 85	PAINT MACHINERY SPACES T-AH 19	$4,302 (CANCELLED) NAVSEA LTR PMS383A1/1016 3/12/86	A00197 100% 30 SEP 86
FMR-057 27 SEP 85	REPAIRS TO BOILER STACK PANT LEG T-AH 19	$16,602 IDR 7438:71/CS:825:00	A00112 100% 26 NOV 85
FMR-058 30 SEP 85	PAINT STEERING ROOM T-AH 19	$27,812 NAVSEA LTR M4E20/3606 7/29/85	A00140 98% 03 MAR 86
FMR-059 9 OCT 85	INSTALL SHELL/S AND BLASTER T-AH 19/20	$24,708	A00119 95% 19 DEC 85
FMR-060 10 OCT 85	PAINT BOILER INNER STACK T-AH 19	$10,899 7438:72/CS:826:00	A00148 100% 03 MAR 86
FMR-061 11 OCT 85	PAINT BALLAST TANKS T-AH 20	$537,426 IDR 7439:72/CS:432:00 NAVSEA LTR PMS 383 A1/1058 OF 8/19/85	A00329 100% 14 MAY 87
FMR-062 17 OCT 85	REPAIR TO #2 L.O. PUMP T-AH 19	$3,724 IDR 7438:72/CS:823:00	A00117 90% 19 DEC 85
FMR-063 21 OCT 85	TEST OPERATION HEAT RUN T-AH 19/20	$59,229	A00114 85% 10 DEC 85
FMR-064 21 OCT 85	CONVERSION SPECIFICATION & CONTRACT DWG APPROVAL T-AH 19	0	A000102 100% 30 OCT 85
FMR-065 23 OCT 85	CANCELLATION CHARGE FOR ECP-C003-FREF L.O. & F.O. FILTER INSTALLATION T-AH 19/20	$2,113	A00107 100% 18 NOV 85
FMR-066 25 OCT 85	REPAIR #1 MOORING WINCH HYD MTR/PMP T-AH 20	$4,369 IDR 7439:74/CS:844:00	A00124 100% 16 JAN 86
FMR-067 25 OCT 85	REPAIR #2 MOORING WINCH, HYD MTR/PMP T-AH 20	$4,369 IDR 7439:74/CS:846:00	A00125 100% 16 JAN 86
FMR-068 25 OCT 85	REPAIR TO #3 MOORING WINCH HYD MTR/PMP T-AH 20	$6,944 IDR 7439:74:/CS:849:00	A00126 100% 21 JAN 86
FMR-069 25 OCT 85	REPAIR TO #4 MOORING WINCH HYD MTR/PMP T-AH 20	$7,568 IDR 7439:74/CS:850:00	A00127 100% 21 JAN 86
FMR-070 25 OCT 85	REPAIR TO #5 MOORING WINCH HYD MTR/PMP T-AH 20	$5,436 IDR 7439:74/CS:852:00	A00129 100% 29 JAN 86

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		IDR 7439:74/CS:853:00		
FMR-071 25 OCT 85	REPAIR TO #6 MOORING WINCH HYD MTR/PMP T-AH 20	$5,436 IDR 7439:74/CS:854:00 IDR 7439:74/CS:855:00	A00130 29 JAN 86	100%
FMR 072 7 NOV 85	FLOOR COVERING FOR O.R. T-AH 19/20	$37,046	A00121 3 JAN 86	100%
FMR-073 12 NOV 85	REPAIR #3 MOORING WINCH-MECHANICAL T-AH 20	$27,826 IDR 7439:74/CS:858:00	A00141 03 MAR 86	100%
FMR-074 12 NOV 85	REPAIR #1 MOORING WINCH-MECHANICAL T-AH 20	$24,327 IDR 7439:74/CS:859:00	A00142 03 MAR 86	100%
FMR-075	REPAIR #2 MOORING WINCH-MECHANICAL T-AH 20	$25,936 IDR 7439:74/CS:860:00	A00143 03 MAR 86	100%
FMR-076 18 NOV 85	GRILLES & DIFFUSERS (EXISTING HOUSE) T-AH 19	$8,016 IDR 7438:75/CS:828:00	A00132 7 FEB 86	100%
FMR-077 18 NOV 85	JACKSTAFF FOR LIFEBOATS T-AH 19/20	$8,371	A00133 7 FEB 86	100%
FMR-078 21 NOV 85	REPAIR #6 MOORING WINCH--MECHANICAL T-AH 20	$22,700 IDR 7439:74/CS:862:00	A00144 03 MAR 86	100%
FMR-079 21 NOV 85	REPAIR #5 MOORING WINCH--MECHANICAL T-AH 20	$24,054 IDR 7439:74/CS:863:00	A00145 03 MAR 86	100%
FMR-080 21 NOV 85	REPAIR #4 MOORING WINCH--MECHANICAL T-AH 20	$32,858 IDR 7439:74/CS:864:00	A00146 03 MAR 86	100%
FMR-081 22 NOV 85	FIRE DAMAGE T-AH 19 9/14/85 REQUEST EQUITABLE ADJUSTMENT	$7,762	A00120 20 DEC 85	100%
FMR-082 4 DEC 85	TELEPHONE INVOICE PAYMENT T-AH 19	$637	A00015 7 JAN 86	100%
FMR-083 4 DEC 85	BOLTS--CLEAN BALLAST PUMP T-AH 20	$2,342 IDR 7438:74/CS:865:00	A00134 7 FEB 86	100%
FMR-084 4 DEC 85	PAINT FOC'SLE DECK MH DR T-AH 19	$4,383 IDR 7438:72/CS:829:00	A00154 1 APR 86	100%
FMR 085 4 DEC 85	PAINT 01 LVL DR PASSAGE T-AH 19	$4,705 IDR 7438:72/CS:830:00	A00154A 14 APR 86	98%
FMR-086 4 DEC 85	PAINT FAN ROOM MH DR T-AH 19	$8,999 IDR 7438:72/CS:831:00	A00196 30 SEP 86	100%
FMR-087 4 DEC 85	SHOWER DR & SHOWER CURTAINS T-AH 19	$4,473 IDR 7438:DRO/CS:833:00	A00135 7 FEB 86	100%

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FMR-088.1 4 DEC 85	CURTAINS & MATTRESS T-AH 19	$9,080 IDR 7438:ORG/CS:834:00	A00152 01 APR 86	90%
FMR-089 4 DEC 85	TERRAZO DK IN GALLEY T-AH 19	$2,907 IDR 7438:7 /CS:835:00	A00136 7 FEB 86	100%
FMR-090 4 DEC 85	LAUNDRY EQUIPMENT T-AH 19	$12,332 IDR 743R:7/CS:836:00	A00147 03 MAR 86	100%
FMR-091 4 DEC 85	GALLEY EQUIPMENT T-AH 19	$33,392 IDR 7438:74/CS:837:00	A00137 7 FEB 86	100%
FMR-092 5 DEC 85	VENT SYSTEMS T-AH 19	$6,963 IDR 7438:756:840:00	A00139 03 MAR 86	90%
FMR-093 14 JAN 86	REPAIR #1 L.O. PUMP T-AH 19	$4,717 IDR 743R:74/CS:842:00	A00150 13 MAR 86	100%
FMR-094 16 JAN 86	OPEN INSPECT REDUCTION GEARS T-AH 20	$326	A00131 3 FEB 86	100%
FMR-095.1 21 JAN 86	BASE COVING IN OR/CLEAN WORK AREAS T-AH 19/20	$13,844	A0015R 14 APR 86	85%
FMR-096 22 JAN 86	AUDIBLE ALARM FOR JP-5 SLUDGE TANK T-AH 19/20	$1,710 CANCELLED BY SUPSHIP LTR 1532/430 3/13/86	A0016R 17 JUN 86	
FMR-097 30 JAN 86	DAMAGE CONTROL STOREROOM T-AH 19/20	$100,033	A00200 13 OCT 86	100%
FMR-098.1 28 FEB 86	ALIGNMENT CHECK OF SHAFT T-AH 19/20	$51,789	A00151 13 MAR 86	100%
FMR-099 5 FEB 86	SAFE/SECURITY CABINET T-AH 19/20	$15,765	A00190 22 SEP 86	95%
FMR-100 7 FEB 86	BUNK LIGHTS/PRIVACY CURTAINS T-AH 19/20	NOT USED		
FMR-101.1 16 MAY 86	ELECTRONIC EOFT OPERAT TEST (FOMSEE) T-AH 19/20	$53,912	A0091 22 SEP 86	100%
FMR-102 10 FEB 86	FORT BOILER CROSS MEMBER T-AH 19	$4,559 IDR 7438:746:843:00	A00159 14 APR 86	100%
FMR-103 26 FEB 86	PATIENT BERTHING ACCOMMODATION LADDER T-AH 19/20	$43,886	A00162 2 MAY 86	85%
FMR-104 7 MAR 86	SAMPLE/TEST CONNECTIONS JP-5 SYSTEM T-AH 19/20	$9,348	A00185 17 SEP 86	100%
FMR-105.1	REPAIR SKED A ITEMS	$7,196	A00187	100%

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ECP NO. ECP DATE	CHANGE DESCRIPTION	REMARKS	MOD NO. MOD DATE	
11 MAR 86	T-AH 19		23 SEP 86	
ECP-106	GOV. RESPONSIBLE DEFICIENCIES T-AH 19	$67,553	A00157	100%
ECP-107 14 MAR 86	MSC CONTRACT CREW T-AH 19	$4,983	A00155	100%
ECP-108 17 MAR 86	REPLACE REFRIGERATED AIR DRYER T-AH 20	$24,002	A00194 22 SEP 86	95%
ECP-109 20 MAR 86	TELETHONE INVOICE PAYMENT T-AH 19	$101	A00161	100%
ECP-110 24 MAR 86	LADDER/COVER FOR STACK T-AH 19/20	$7,882 IDR 7439:716:868:00	A00186 17 SEP 86	100%
ECP-111 27 MAR 86	FLOW-THROUGH VENT FOR END CONSOLE T-AH 19/20	$2,097 CANCELLED BY SUPSHIP LTR 1531/669 ON 4/18/86	A00167 16 MAY 86	100%
ECP-112	HULL WELDING T-AH 19	$8,929	A00163	100%
ECP-113	ASSIGNED TO CODE 4102R NOT USED			
ECP-114	ASSIGNED TO CODE 4102R NOT USED			
ECP-115	ASSIGNED TO CODE 4102R NOT USED			
ECP-116	ASSIGNED TO CODE 4102R NOT USED			
ECP-117	ASSIGNED TO CODE 4102R NOT USED			
ECP-118	ASSIGNED TO CODE 4102R NOT USED			
ECP-119	ASSIGNED TO CODE 4102R NOT USED			
ECP-120	ASSIGNED TO CODE 4102R NOT USED			
ECP-121	ASSIGNED TO CODE 4102R NOT USED			
ECP-122	ASSIGNED TO CODE 4102R NOT USED			
ECP-123	ASSIGNED TO CODE 4102R NOT USED			
ECP-124	ASSIGNED TO CODE 4102R NOT USED			
ECP-125	ASSIGNED TO CODE 4102R NOT USED			
ECP-126	ASSIGNED TO CODE 4102R NOT USED			
ECP-127 14 APR 86	TRANSFER LINE BETWEEN EVAP (AUX RM) AND AVAP (ENG RM) T-AH 19/20	$2,581	A00188 16 SEP 86	100%

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ECP-128	ABS FEES	$15,814	A00169	100%

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FMR-128 28 APR 86	ABS FEES T-AH 19/20	$25,814	A00169 18 JUN 86	100%
FMR-129 30 APR 86	LOGISTIC SUPPORT/ADMIN SPACES FEASIBILITY STUDY T-AH 19	$105,462	A00176 07 AUG 86	100%
FMR-130 2 MAY 86	RETILE COMPT 1-100-0 T-AH 19	$2,983	A00189 22 SEP 86	95%
FMR-131 5 MAY 86	FEED STOWAGE INSTALLATION DWGS T-AH 19	$34,320	A00192 23 SEP 86	100%
FMR-132 19 MAY 86	CREDIT UNUSED MONIES FROM FMR-106 T-AH 19	$64,782	A00174 04 AUG 86	100%
FMR-133.1 21 MAY 86	REPLACE 7 (600LB) VALVES IN AUX STM SYST. T-AH 20	$74,239	A00202 21 OCT 86	100%
FMR-134 27 MAY 86	REMOVE BOILER TUBES FOR INSPT. T-AH 19	CANCELLED SUPSHIP LTR 1531/1188 8/5/86		
FMR-135 27 MAY 86	INSTALL MAGNET IN L.O. STRAINERS T-AH 19/20	$3,036	A00205 06 OCT 86	100%
FMR-136 30 MAY 86	MSC WORKSHOPS IN AUX MACH AREA T-AH 20	$186,562	A00281 03 JUN 87	80%
FMR-137 4 JUN 86	EMERG EYE WASH IN PROSTHETICS LAB T-AH 19/20	$6,972	A00208 22 OCT 86	100%
FMR-138 5 JUN 86	REPAIR F.W. DRAIN TANK PUMP T-AH 19	$13,437	A00193 22 SEP 86	95%
FMR-139 11 JUN 86	REMOVE BOILER TUBES FOR INSPT. T-AH 20	$1,682 CANCELLED SUPSHIP LTR 1532/305 3/11/87	A00319 12 MAY 87	
FMR-140 8 JUL 86	RECOAT TERRAZO DALLEY DECK (MSC CREW) T-AH 19	$5,701	A00203 10 OCT 86	100%
FMR-141 14 JUL 86	MODIFY 3JV CIRCUIT T-AH 19/20	$1,055 CANCELLED SUPSHIP LTR 1532/1366 9/9/86	A00209 23 OCT 86	
FMR-142 29 JUL 86	INSURANCE CLAIM T-AH 19	$73,034	A00206 13 NOV 86	
FMR-143 29 JUL 86	PAINT ENGINEERING SPACE T AH 19	$274,584	A00285 12 MAR 87	95%
FMR-144 5 AUG 86	PAINT STEERING RM T-AH 20	$29,166 IDR 7439:726:876:00	A00273 20 FEB 87	100%
FMR-145 5 AUG 86	PAINT FORT FAN RM MN DK T-AH 20	$5,843 IDR 7439:726:878:00	A00221 03 DEC 86	100%

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ECR-146.1 5 AUG 86	SHOWER DR T-AH 20	$8,976 IDR 7439DKG/CS:879:00	A00227 08 DEC 86	80%
ECR 147 6 AUG 86	RECOAT/RESEAL TERRAZZO GALLEY DK (MSC CREW) T-AH 20	$6,890 IDR 7439DKG/CS:881:00	A00242 07 JAN 87	100%
ECR-148 6 AUG 86	CURTAINS/MATTRESS T-AH 20	CANCELLED SUPSHIP LTR 1542/1619 12/3/86 IDR 7439DKG/CS:882:00 $1,091	A00274 19 FEB 87	
ECR-149 6 AUG 86	REPLACE CARPET EXISTING DK HOUSE T-AH 19/20	CANCELLED SUPSHIP LTR 1542/1634 12/5/86 IDR 7438:DKG/CS:851:00 $1,091 IDR 7439:DKG/CS:875:00	A00275 19 FEB 87	
ECR-150 6 AUG 86	REPLACE ICE MAKERS 01-100-0/01 100-7 T-AH 19/20	$27,371	A00219 03 DEC 86	100%
ECR-151 7 AUG 86	REPLACE CURTAINS & TIE BACKS (MSC OTRS) T-AH 19	CANCELLED SUPSHIP LTR 1532/1635 12/5/86 IDR 7438:DKG/CS:854:00 $1,091	A00276 19 FEB 87	
ECR-152 7 AUG 86	PAINT FOC'LE AREA T-AH 20	$4,180 IDR 7439:726:883:00	A00214 5 NOV 86	~~90%~~ 100%
ECR-153 7 AUG 86	RETILE 02 LVL PASSAGEWAY AFT DECK HOUSE T-AH 19/20	$5,423 IDR 7438:DKG/CS:852:00	A00215 19 NOV 86	100%
ECR-154 18 AUG 86	TELEPHONE INVOICE T-AH 19/20	$457	A00178 28 AUG 86	100%
ECR-155 17 AUG 86	TRIAL AGENDA DELTA T-AH 19	$25,653	A00179 30 SEP 86	100%
ECR-156 28 AUG 86	CRASH/RESCUE TOOL POUCH T-AH 19/20	$255 CANCELLED SUPSHIP SDIEGO LTR 1531/1516 11/4/86	A00228 08 DEC 86	
ECR 157 03 SEP 86	SKED A UPA 59A EMERG ALARM T-AH 19	NOT USED		
ECR-158	CANCELLATION OF WT DOOR INSTALLATION	$6,125	A00217 19 NOV 86	
ECR 159	CANCELLATION OF STUDY PLATFORM/LADDERS	$3,250	A00218 19 NOV 86	
ECR-160 10 SEP 86	SKED A ITEM T-AH 19	$5,625	A00260 03 FEB 87	100%
ECR-161 18 SEP 86	PROVIDE 1 SNIFSET 7(600 LB) VALVES IN AUX SIM SYST T-AH 19	$48,141	A00229 08 DEC 87	95%
ECR-162 21 SEP 86	PROVIDE SPARE STRAINER BASKETS T-AH 19/20	$8,159	A00261 19 FEB 87	100%

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FMR-163 1 OCT 86	INSTALL EERD T-AH 19	$184,607	A00356 A00235	95%
FMR-164 9 OCT 86	MSC WORK SHOP IN AUX MACH AREA T-AH 19	CANCELLED $3,636	A00270 02 MAR 87	
FMR-165 9 OCT 86	MINOR GOV DEFICIENCIES T-AH 19	$60,556	A00212 27 OCT 86	95%
FMR-166 15 OCT 86	REPLACE FORNITURE EXIST DR HOUSE T-AH 19/20	$103,594	A00295 20 MAR 87	95%
FMR-167 15 OCT 86	CHILL STORES T-AH 20	$61,800	A00232	100%
FMR-168.1 15 OCT 86	CHILL STORES T-AH 19	$12,920	A00233 17 DEC 86	100%
FMR-169 15 OCT 86	TECH LIBRARY SERVICES T-AH 19	$5,029	A00211 27 OCT 86	100%
FMR-170 16 OCT 86	REMOVE BOILER TUBES FOR INSPT. T-AH 19	$28,838	A00226 08 DEC 86	100%
FMR-171 25 OCT 86	PIPE IDENTIFICATION T-AH 19	$14,827	A00244 05 JAN 87	100%
FMR-172 28 OCT 86	ADDITIONAL DEMO OF LIFEBOATS/LIFERAFTS T-AH 19	$16,130	A00262 03 FEB 87	100%
FMR-173 29 OCT 86	HYDRO SIDE BOILER T-AH 19	$3,144	A00230 08 DEC 86	100%
FMR-174 05 NOV 86	ELECTRICAL MATERIAL T-AH 19/20	$1,504 CANCELLED SUPSHIP LTR 1530/1593 11/25/86	A00292 20 MAR 87	
FMR-175 06 NOV 86	GUARANTEE ENGINEER T-AH 19	$159,749	A00297 26 MAR 87	100%
FMR-176	LAGGING T-AH 19	$2,022	A00236 02 DEC 86	100%
FMR-177	LAGGING T-AH 19	$2,749	A00237 05 JAN 87	100%
FMR-178	LAGGING T-AH 19	$5,108	A00238 22 DEC 86	100%
FMR-179	WORK BENCH T-AH 19	$3,065 IA118 MD 01	A00239 18 DEC 86	95%
FMR-180	REPAIR BOILER T-AH 19	$873,30	A00246 22 DEC 86	100%

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FMR NO. FMR DATE	CHANGE DESCRIPTION	REMARKS	MOD NO. MOD DATE

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 1 AN 19/20

FMR NO. FMR DATE	CHANGE DESCRIPTION	REMARKS	MOD NO. MOD DATE	
FMR-181	WELDING CURTAINS 1-AN 19	$1,404 1K010 OH	A00247 07 JAN 87	95%
FMR-182	O.R. DOOR WINDOWS 1-AN 19	$3,214 #1K059 MD	A00250 22 DEC 86	100%
FMR-183	BODY TRAY DRAINS IN MORGUE 1-AH 19	$3,588 #1K003 MD/1K113 MD	A00255 18 DEC 86	95%
FMR-184	RAMP FOR DOOR SILL 1-67-1 1 AH 19	$1,118 1K219 MD	A00249 22 DEC 86	95%
FMR-185	DROP LEAF TABLES: INSTALL 1-AH 19	$3,327 #1K122 MD	A00248 22 DEC 86	95%
FMR 186 06 NOV 86	GOVERNMENT DISCREPANCIES 1-AH 19	CANCELLED SUPSHIP LTR 1531/161 2/11/87		
FMR-187.1 17 NOV 86	PAINT ENGINEERING SPACES 1-AH 20	$2,769	A00392 5 AUG 87	100%
FMR-188 08 NOV 86	CABINET LOCKS 1-AH 19	NOT USED	FMR-165-009	
FMR-189 18 NOV 86	PAINT DECKS COMPT 1-101 2/1-103-0 1-AH 19	$2,686	A00268 19 FEB 87	100%
FMR-190 18 NOV 86	PAINT INNER STACK/RENEW 50' OF 2" INSULATION 1-AH 20	$15,724	A00277 20 FEB 87	100%
FMR-191 19 NOV 86	PRIVATE SHIP 1-AH 19	$27,845	A00269 20 FEB 87	100%
FMR-192 19 NOV 86	DISCREPANCIES IN ENG RM 1-AH 19	$8,291	A00282 05 MAR 87	100%
FMR-193 19 NOV 86	REMOVE LOCKER 1-AH 19	$1,758	A00256 26 JAN 87	100%
FMR-194 24 NOV 86	PAINT EXIST ELEVATOR SHAFT 1-AH 19	$4,452	A00240 18 DEC 86	100%
FMR-195 25 NOV 86	NON SKID APPLICATION HELO DK 1-AH 20	$13,044	A00283 05 MAR 87	100%
FMR 196 25 NOV 86	2JZ STATION (1-91-2) 1-AH 19/20	$13,429	A00259 17 FEB 87	100%
FMR-197 02 DEC 86	SNAP II SYSTEM 1-AH 19	$19,160	A00263 03 FEB 87	95%
FMR 198	SMOKE STEAM DRAWINGS	$16,803	A00278	90%

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NAVSEA CONTRACT NUMBER N00024-83-C-2094 1-AN 19/20

FMR NO. FMR DATE	CHANGE DESCRIPTION	REMARKS	MOD NO. MOD DATE

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AN 19/20

FMR NO. FMR DATE	CHANGE DESCRIPTION	REMARKS	MOD NO. MOD DATE	
FMR 216 21 JAN 87	ADDITIONAL PORTABLE CO2 EXTINGUISHERS T-AN 20	$14,825	A00314 12 MAY 87	100%
FMR-217 21 JAN 87	ID SWITCHBOARD PANELS EMERG DIESEL SWBD T-AN 20	$2,748	A00299 25 MAR 87	100%
FMR-218 21 JAN 87	RECEPTACLES/CUT OFF SWCH T-AN 20	$5,766	A00303 08 APR 87	100%
FMR-219 22 JAN 87	INCREASE STOWAGE PHARMACY VAULT T-AH 20	$8,056	A00369 11 JUN 87	90%
FMR 220 22 JAN 87	PORTABLE LADDER ACCESS TO 3-39-1 T-AN 20	$2,331	A00287 12 MAR 87	100%
FMR-221 22 JAN 87	ACCESS LADDER 04 & 05 LEVELS T-AN 20	$16,006	A00331 13 MAY 87	100%
FMR-222 12 DEC 86	TELEPHONE INVOICE T-AN 20	$616	A00280 05 MAR 87	100%
FMR-223 12 DEC 86	ADDITIONAL DIAL TELEPHONES T-AN 20	$28,675 WIA 039, 102 & 107	A00284 13 MAR 87	100%
FMR-224 02 JAN 87	AUTOCLAVE DENTAL AREA T-AN 20	$25,771 WIA-053 T-AN 19	A00318 12 MAY 87	100%
FMR-225 02 JAN 87	REPLACE SINK IN 1 50-1 SOILED UTILITY T-AH 20	$9,369 WIA-052 T-AN 19	A00309 12 MAY 87	100%
FMR-226 07 JAN 87	BOILER INSPECTION ASSISTANCE T-AH 20	$25,095	A00296 07 APR 87	95%
FMR-227 20 JAN 87	BOILER & PUMP REPAIRS T-AN 19	$55,498	A00306 16 JUN 87	
FMR-228 22 JAN 87	PORTABLE EYEWASH STATIONS T-AH 20	$5,705	A00300 25 MAR 87	100%
FMR-229 23 JAN 87	LOAD TEST PORT/STBD STORES CRANE T-AN 20	$12,031	A00332 14 MAY 87	100%
FMR-230 23 JAN 87	DISCREPANCIES ON LITTER HOIST T-AN 20	$14,660	A00301 25 MAR 87	100%
FMR-231 26 JAN 87	FLAMMABLE STOWAGE LOCKS T-AN 20	$14,497	A00316 13 MAY 87	100%
FMR-232 28 JAN 87	MEDICAL SECURITY CABINETS T-AN 20	$8,508	A00310 13 MAY 87	100%
FMR-233 28 JAN 87	LABEL PLATES FOR VLS I.D. T-AN 20	$16,286	A00307 27 APR 87	95%

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

CER	TITLE	SOS - SER SOS - DATE	NATURE OF PROBLEM	SNFM - SER SNFM - DATE	RESOLUTION	SNS TO K SER DATE

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83 C-2094 T-AH 19/20

FMR NO. FMR DATE	CHANGE DESCRIPTION	REMARKS	MOD NO. MOD DATE	
FMR-234 29 JAN 87	MODIFY STRETCHER BRACKET-ELEVATORS T-AH 20	$55,199	A00322 12 MAY 87	75%
FMR-235 02 FEB 87	ELECTRICAL WORK BENCHES T-AH 20	$30,087	A00311 12 MAY 87	100%
FMR-236 03 FEB 87	EXHAUST DUCT FOR REFERS T-AH 20	$8,733	A00328 14 MAY 87	85%
FMR-237 03 FEB 87	CRYOGENIC DRAIN, PROTECTIVE PLATE T-AH 20	$13,270	A00291 20 MAR 87	100%
FMR-238 04 FEB 87	ELEVATOR ENHANCEMENT T-AH 20	$8,863	A00395 13 AUG 87	
FMR-239 05 FEB 87	MECH SEALS FOR MSD PUMPS T-AH 20	$138,256	A00355 27 MAY 87	~~85%~~ 100%
FMR-240 05 FEB 87	INSTALL EERD T-AH 20	$222,249	A00354 27 MAY 87	95%
FMR-241 05 FEB 87	INSTALL RELAY CONTROLLED LANTERNS T-AH 20	$17,578	A00317 12 MAY 87	100%
FMR-242 06 FEB 87	CORRECT O2N2 PLANT DISCREPANCIES T-AH 20	$64,868	A00357 28 MAY 87	95%
FMR-243 06 FEB 87	REPAIR OF GOV. FURNISHED MATERIAL T-AH 19	$8,077	A00304 08 APR 87	100%
FMR-244 09 FEB 87	IDENTIFICATION LABELS T-AH 20	$3,927	A00315 13 MAY 87	100%
FMR-245 09 FEB 87	CAMEL FLOTATION T-AH 20	NOT USED		
FMR-246 09 FEB 87	REPLACE L.O. COOLERS ON MN FEED PUMPS T-AH 20	$15,682	A00353 20 MAY 87	100%
FMR-247 10 FEB 87	SAFETY AND OPERATOR INSTRUCTION PLATES T-AH 20	$5,508	A00320 13 MAY 87	100%
FMR-248 10 FEB 87	FLEXIBLE HOSE T-AH 20	$15,451	A00312 13 MAY 87	100%
FMR-249 10 FEB 87	LIFERINGS W/MARKER LIGHTS T-AH 20	$4,538	A00302 25 MAR 87	100%
FMR-250 10 FEB 87	EMERGENCY ESCAPE LADDER AND SCUTTLE T-AH 20	$14,549	A00324 14 MAY 87	
FMR-251	BODY TRAY DRAINS	$8,004	A00305	100%

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83 C-2094 T-AH 19/20

FER	TITLE	SDS - SER SDS - DATE	NATURE OF PROBLEM	SDFM - SER SHFM - DATE	RESOLUTION	SDS TO K SER DATE
	MEDICAL FREEZER	151 302	EMERGENCY LOWER TO SELECTED	104% FMS303	APPROVED WAIVER OF	150 244

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

FMR NO. FMR DATE	CHANGE DESCRIPTION	REMARKS	MOD NO. MOD DATE	
10 FEB 87	T-AH 20		08 APR 87	
FMR-252 11 FEB 87	ADD. MED. EQUIP CLEAN CORE T-AH 20	$372,565	A00361 01 JUN 87	50%
FMR-253.1 11 FEB 87	CHLORINATION INJECTION SYS. T-AH 20	$23,428	A00398 10 AUG 87	
FMR-254 12 FEB 87	OPEN BIN STOWAGE CABINETS 1-49-0 T-AH 20	$22,903	A00352 20 MAY 87	100%
FMR 255 13 FEB 87	DROP LEAF TABLES 01-54-01 T-AH 20	$7,026	A00313 12 MAY 87	100%
FMR 256 17 FEB 87	CLEAN WATERSIDES & MINOR REPAIRS ON BOILERS #1 & #2 T-AH 20	$76,834	A00358 27 MAY 87	50%
FMR-257 17 FEB 87	CHEMICAL INJECTION SYST T-AH 20	$36,373	A00343 19 MAY 87	85%
FMR-258 17 FEB 87	RETRACTABLE SOOT BLOWER T-AH 20	$18,252	A00327 14 MAY 87	100%
FMR 259 17 FEB 87	CREDIT UNUSED MONIES FROM FMR-165 T-AH 19	$51,393	A00286 12 MAR 87	100%
FMR 260 18 FEB 87	INSTALL HELORUS IN 03-33-6 T-AH 20	$8,460	A00326 13 MAY 87	100%
FMR-261 25 FEB 87	POTABLE WATER PIPING T-AH 20	$77,274	A00359 27 MAY 87	95%
FMR-262 25 FEB 87	PORTABLE F.F. EQUIP IN ENG RM. T-AH 20	$9,338	A00323 12 MAY 87	100%
FMR-263 26 FEB 87	POTABLE WTR CROSS CONNECT T-AH 20	CANCELLED SUESHIP LTR 1531/880 6/3/87 $4,629	A00389 31 JUL 87	
FMR-264 26 FEB 87	VENT/DRAIN VLVS ON F.O. DUPLEX STRAINER T-AH 20	$3,390	A00341 20 MAY 87	100%
FMR 265 2 MAR 87	FIRE MAIN SYSTEM RELIEF T-AH 20	CANCELLED SUESHIP LTR 1531/775 5/20/87 $3,460	A00387 5 AUG 87	
FMR-266 2 MAR 87	CORRECT ELECTRICAL DISCREPANCIES IN MED ROOM T-AH 20	$22,511	A00337 20 MAY 87	100%
FMR-267 4 MAR 87	COMMUNICATION CENTER, MODIFY T-AH 20	$21,880	A00333 12 MAY 87	100%
FMR-268 4 MAR 87	SECURING WEAPON LOCKERS T-AH 20	$1,458	A00330 19 MAY 87	100%

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NAVSEA CONTRACT NUMBER N00024-83-C-2094 T AH 19/20

FER	TITLE	SOS - SER SOS - DATE	NATURE OF PROBLEM	SHEM - SER SHEM - DATE	RESOLUTION	SBS TO K SER DATE
1	MEDICAL EQPT ON	151 309	EMERGENCY POWER TO SELECTED	104% FMR183	ADEQUATE MARGIN OF	

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

CMR NO. / FMR DATE	CHANGE DESCRIPTION	REMARKS	MOD NO. / MOD DATE	
FMR-269 6 MAR 87	INSPECT 750KW STDBY DIESEL GENERATOR T-AH 20	$6,474	A00321 12 MAY 87	85%
FMR-270 6 MAR 87	SUPPLY STEAM ISOLATION VLV TO STM KITTLES T-AH 20	$14,906	A00360 28 MAY 87	100%
FMR 271 6 MAR 87	REPAIR OF SOOT BLOWERS T-AH 20	$34,354	A00351 19 MAY 87	100%
FMR 272 6 MAR 87	INSTALL 10" GATE VL T-AH 20	$13,020	A00370 11 JUN 87	100%
FMR-273 6 MAR 87	STEERING GEAR DISCREPANCIES T-AH 20	$4,390	A00325 14 MAY 87	100%
FMR-274 9 MAR 87	LITTER HOIST FAMILIARIZATION T-AH 20	$5,496	A00366 30 JUN 87	
FMR 275 11 MAR 87	ADDITIONAL TIE-DOWN MED AREA T-AH 20	$30,780	A00362 01 JUN 87	100%
FMR-276 11 MAR 87	TELEPHONE INVOICE T-AH 20	$3,251	A00308 20 APR 87	100%
FMR 277 13 MAR 87	MODIFICATION TO CHARMACY AREA T-AH 20	$4,642	A00338 19 MAY 87	100%
FMR-278 16 MAR 87	INSTALL CALCIUM HYPOCHLORITE CABINETS T-AH 20	$7,058	A00371 11 JUN 87	100%
FMR-279 17 MAR 87	ADDITIONAL ORIENTATION ON ELEVATORS T-AH 20	$7,850	A00350 28 MAY 87	
FMR-280 18 MAR 87	ELEVATOR DOOR LOCK OUT T-AH 20	$105,584	A00394 13 AUG 87	
FMR-281 23 MAR 87	ENCLOSED STORAGE SHELVES T-AH 20	$55,434	A00367 04 AUG 87	
FMR-282 23 MAR 87	MODIFICATIONS TO DENTAL OPERATORY T-AH 20	$60,279	A00375 30 JUN 87	75%
FMR-283 26 MAR 87	6" SHORE STEAM CONNECTIONS T-AH 20	CANCELLED SUPSHIP LTR 1531/774 5/20/87 $3,807	A00390 31 JUL 87	
FMR-284 27 MAR 87	PAINT EXISTING ELEVATOR SHAFT/CAR T-AH 20	$8,176 IDR 7439:726:944:00	A00349 20 MAY 87	100%
FMR-285	PAINT STAIRWELL 1-100 0 T-AH 20	$8,512 IDR 7439:726:945:00	A00348 20 MAY 87	100%
FMR 286	RECOAT/RESEAL SHOWERS T-AH 20	$6,023 IDR 7439:ORG/6:947:00	A00347 20 MAY 87	100%

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NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

CPR	TITLE	SOS - SER SOS - DATE	NATURE OF PROBLEM	SUPM - SER SUPM - DATE	RESOLUTION	SOS TO K SER DATE
1	MEDICAL EQPT ON	[illegible]	[illegible]	[illegible]	[illegible]	

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T AH 19/20

ENR NO. ENR DATE	CHANGE DESCRIPTION	REMARKS	MOD NO. MOD DATE	
ENR-287.1 31 MAR 87	REPLACE STM TURBINE BUTTERWORTH ENR T-AH 20	$78,605	A00396 10 AUG 87	
ENR-288 01 MAR 87	HALON BOARDS T-AH 20	$3,654	A00414 20 MAY 87	85%
ENR 289 01 APR 87	REFILE AREAS OF AFT HOUSE T AH 20	$10,372 IDR 7439:DRG/6:946:00	A00339 19 MAY 87	100%
ENR-290 01 APR 87	REFOF/RESEAL DECK IN 01 91-1/01-91-2 T-AH 20	$4,531 IDR 7439:DRG/6:965:00	A00340 19 MAY 87	100%
ENR 291 02 APR 87	CORRECT TRIAL DISCREPANCIES T-AH 20	$3,716 #1R412 MD/#1R403 MD	A00446 20 MAY 87	85%
ENR-292 02 APR 87	REPLACE VENT SCREENS T-AH 20	$5,665 IDR 7439:756:959:00	A00345 20 MAY 87	100%
ENR 293 02 APR 87	PAINT INTERIOR AFT HOUSE MN DK T-AH 20	$45,206 IDR 7439:726:974:00	A00376 30 JUN 87	
ENR 294 14 APR 87	REPLACE CHECK VL S.S. CONTROL AREA T-AH 20	$4,180 IDR 7439:726:975:00	A00372 11 JUN 87	100%
ENR-295 14 APR 87	PREPARATION CHARGE FOR ECP C 005 T-AH 19	$15,604	A00342 27 MAY 87	100%
ENR 296 15 APR 87	CPES SHEATHING ON SIM FIFE 02 33 0 T AH 20	$14,209	A00377 30 JUN 87	100%
ENR 297 15 APR 87	AIR CRAFT WARNING LIGHTS T-AH 20	$14,803	A00378 6 JUL 87	100%
ENR-298 22 APR 87	SCHEDULE ADJUSTMENT T-AH 20	$458,003	A00434 13 MAY 87	100%
ENR 299 24 APR 87	REPLACE PARTS ON ELEVATOR T AH 20	$46,022	A00386 10 AUG 87	
ENR-300 28 APR 87	CORRECT DISCREPANCIES AFT DK HOUSE/MED ELEVATORS T-AH 20	$14,092 IDR 7439:756:965:00 IDR 7439:746:966:00	A00378 11 JUN 87	75%
ENR-301 29 APR 87	REPLACE STEAM TURBINE BALLAST PUMP T-AH 20	$111,290	A00401 14 AUG 87	
ENR-302.1 29 APR 87	SHORE CONNECTION TELEPHONE SERVICES T-AH 20	TO CONTRACTOR ON 8/19/87 410/1420		35%
ENR 303 08 MAY 87	UPDATE ENGRS OPERATING MANUAL T-AH 20	$0	A00374 11 JUN 87	50%

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NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

CER	TITLE	SOS - SER SOS DATE	NATURE OF PROBLEM	SHEM - SER

DATE: September 24, 1987

NAVSEA CONTRACT NUMBER N00024 84-C-2094 T-AH 19/20

FMR NO. FMR DATE	CHANGE DESCRIPTION	REMARKS	MOD NO. MOD DATE	
FMR 304 11 MAY 87	MODIFY FREEZE STORES TO HOLD STOWAGE T-AH 20	$22,927	A00388 4 AUG 87	100%
FMR-305 14 MAY 87	CORRECT DEMO TRIAL CARDS T-AH 20	TO CONTRACTOR ON 5/21/87 410/803		
FMR-306 14 MAY 87	REFILE 01 96 0 T-AH 20	FMR 7439:DRG/6:976:00 $6,602	A00383 28 JUL 87	100%
FMR 307 15 MAY 87	VIRMAR CABINETS LOCKS T-AH 20	$3,005	A00393 4 AUG 87	100%
FMR 308 18 MAY 87	WORK COUNTER & CABINET 01 A7-0 NAKOFFIC INK T-AH 20	$10,297	A00384 23 JUL 87	85%
FMR-309 20 MAY 87	ULTRONIC TEST & INSTEFT BOILER PIPING/TUBES T-AH 20	NA PROPOSAL REVIEWED ON 6/8/87	AWAIT NEGOTIATION	
FMR-310	ASSIGNED TO CODE 4102L	$1,564		100%
FMR-311 26 MAY 87	REPAIR OF SKED A ITEMS T-AH 20	$2,968	A00365 16 JUN 87	
FMR 312 10 JUN 87	MOD TO BUILDER TRIAL AGENDA T-AH 20	$128,088	A00381 10 JULY 87	
FMR-313 16 JUN 87	ENGINEERING REVIEW COOLING WTR PROBLEM T-AH 20	NA PROPOSAL REVIEWED ON 8/9/87 MERCY 090450Z JUN 87	AWAIT NEGOTIATION	
FMR-314 26 JUN 87	TELEPHONE INVOICE T-AH 20	$831	A00399 10 AUG 87	100%
FMR-315 8 JUL 87	MINOR GOVERNMENT RESPONSIBLE DEFICIENCIES T AH 20	$64,771	A00382	
FMR-316 17 JUL 87	TRIAL MATTRESSES T-AH 20	TO CONTRACTOR ON 7/23/87 410/1177		
FMR-317 17 JUL 87	PAINT ACCESS TO MN. MACHINERY ROOM T-AH 20	$26,615	A00403 19 AUG 87	85%
FMR-318 17 JUL 87	PAINT BULKHEAD FR. 129 T-AH 20	$20,998	A00406 19 AUG 87	
FMR-319 17 JUL 87	PAINT 21 F1. 6 IN. LEVEL T-AH 20	$16,501	A00402 19 AUG 87	
FMR-320 17 JUL 87	PAINT ENGINE ROOM CONSOLE T-AH 20	$18,507	A00405 19 AUG 87	50%
FMR-321 17 JUL 87	REPLACE MAIN FEED PUMP VALVES/PIPING T-AH 20	TO CONTRACTOR ON 8/3/87 410/1263		

DATE: September 24, 1987

NAVSEA CONTRACT NUMBER N00024 84-C-2094 T-AH 19/20

FMR NO. FMR DATE	CHANGE DESCRIPTION	REMARKS	MOD NO. MOD DATE
FMR-322	PAINT DECK AT OPERATING LEVEL	$20,038	

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

FMR NO. / FMR DATE	CHANGE DESCRIPTION	REMARKS	MOD NO. / MOD DATE
FMR-322 20 JUL 87	PAINT DECK AT OFFRAING LEVEL T-AH 20	$20,028	A00404 19 AUG 87
FMR-323 22 JUL 87	CANCELLATION CHARGE ECP C-014 T-AH 19	$21,629	A00407 100% 18 AUG 87
FMR-324 27 JUL 87	PAINT BLKHD/OVERHD MAIN DK FOC'SLE AREA T-AH 20	TO CONTRACTOR ON 8/13/87 410/1379 IDR 7439:726:358:00	
FMR-325 10 AUG 87	CANCELLATION CHARGE ECP C-013 T AH 20	TO CODE 410 ON 8/18/87	
FMR-326 11 AUG 87	GFBR'S 8044, 8047, 8048, 8049, 8053, 8054	TO CODE 410 ON 8/11/87	
FMR-327 19 AUG 87	OXYGEN SYSTEM CUTOUT VLVS T-AH 20	TO CODE 410 ON 8/20/87	
FMR-328 28 AUG 87	PROVIDE TEMP OFFICE SPACE T-AH 20		AWAIT NEGOTIATION
FMR-329 10 SEP 87	O2N2 PLANT TRAINING	TO CONTRACTOR ON 9/16/87 410/1603	
FMR-330 18 SEPT 87	ELECT POWER TO RADIATOR FAN FOR E.D.G. T-AH 20	TO CODE 410 ON 9/22/87	
FMR 331 21 SEPT 87	PAINT OLD HOUSE FAN PLENUMS T-AH 20	TO CODE 410 ON 9/22/87	

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

ECP NO. / ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REVISIONS	REMARKS

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

ECP NO. / ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REVISIONS	REMARKS
VECP-001 24 FEB 84 92-064	TWEEN DECK HEIGHTS	PLATFORM DECK HEIGHTS		HMR-002, DATE 9 MAR 84 PLATFORM DECK HEIGHTS A0009 ON 5 APR 84
VECP-002 09 MAY 84 92-100	NO-BREAK POWER SUPPLY	SPEC SECT 90/96		FMR-5
C-001	O2H2 PLANTS	SPEC SECTS 1/13/50/58/69		FMR-1
C-002	POTABLE WATER TANKAGE			FMR-12
C-003	LO/FO FILTER	SPEC SECT 56/57		FMR-50 CANCELLATION CHARGE
C-004	PAINTING REQUIREMENTS SERVICE AREA	SPEC SECT 14		FMR-15
C-005	SHORE BASE SPARES	SPEC SECT 86		HMR-23
C-006	WATERTIGHT DOORS	SPEC SECT 4		FMR-158 CANCELLATION CHARGE
C-008	COMPUTED AXIAL TOMOGRAPHY (CAT) SCANNER T-AH 19/20	SPEC SECT 26		HMR-17
C-010	EMERGENCY ESCAPE BREATHING DEVICE (EEBD) STOWAGE CONTAINER	SPEC SECT 1		FMR-131
C-011	COST/FEASIBILITY STUDY TO INSTALL PLATFORM & LADDER			FMR-159 CANCELLATION CHARGE
C-012	MODIFY COMFI 01-33-2 'CHILL STORES' T-AH 20	SPEC SECT 66		FMR-167
C-013	SIDEPORT DOOR INST. DWG T-AH 19			TO FMS 383 FOR EVALUATION
C-014	REPLACE STM TURBINE W/ELEC MTRS			TO FMS 383 FOR EVALUATION
C-015	REPLACE STM TURBINE WITH UPGRADED MODEL OH BUTTERWORTH PUMP T-AH 20			FMR-287
C-016	REPLACE STM TURBINE FOR BALLAST PMP T-AH 20			FMR-301 FOR EVALUATION
F0001	CONVERSION SPECIFICATION (REFRIGT APPROVAL)			FMR-3
F0006	MEDICAL GAS CYLINDER CARTS	SPEC SECT 26		FMR-6
F0007	WIND SPEED/DIRECTION	SPEC SECT 94		FMR-7

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

ECP NO. / ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REVISIONS	REMARKS

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

ECP NO. ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REVISIONS	REMARKS
	INDICATOR SYSTEM			
10008	HOSPITAL SHIP MARKING	SPEC SECT 14/24		FMR-8
F0009	EXCESS PROPERTY - REMOVAL			FMR-9
10010	FEASIBILITY STUDY SEWAGE TREATMENT	SPEC SECT 70		FMR-10
F0011	PATIENT BED TRAY	SPEC SECT 26		FMR-11
F0013	EXPANDED METAL MESH	SPEC SECT 01		FMR-14
F0014	MONITORS, STRIP CHART RECORDER	SPEC SECT 26		FMR-42
F0015	AUX DIESEL GEN-DUPLEX STRAINER	SPEC SECT 58		FMR-45
F0016	SPECIFICATION MODIFICATIONS	SPEC SECT 58		FMR-47
F0017	RED CROSS LIFEBOAT MARKINGS	SPEC SECT 1x		FMR-48
10018	P.O. REGULATING VALVE	SPEC SECT 56		FMR 49
F0019	CORRECT SPEC ERRORS T-AH 19/20	SPEC SECT 26		FMR-59
F0020	CONVERSION SPECIFICATION & CONTRACT DWG APPROVAL	SPEC SECT 26		FMR-064
F0021	FLOOR COVERING O.R.	SPEC SECT 6		FMR-072
10022 (R1)	BASE COVING OR	SPEC SECT 6		FMR-095.1
F0023	AUDIBLE HORN	SPEC SECT 71		FMR-096
F0024	SAFE/SECURITY CABINET	SPEC SECT 26		FMR-99
10025	BUNK LIGHTS/PRIVACY CURTAINS T-AH 19/20	SPEC SECT 19		FMR-100
F0026	ELECTRONIC DUET OPERAT. TEST T-AH 19/20	SPEC SECT 101		FMR-101
F0027	PATIENT BERTHING ACCOMMODATION LADDERS T-AH 19/20	SPEC SECT 26		FMR-103
F0028	SAMPLE/TEST CONNECTIONS JP-5 SYSTEM	SPEC SECT 68		FMR-104
F0029	FLOW THROUGH FAN FOR ENG RM CONSOLE T AH 19/20	SPEC SECT 59		FMR-111
F0030	TRANSFER LINE BETWEEN EVAP	SPEC SECT 55/60		FMR-127

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

ECP NO. ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REVISIONS	REMARKS
	(NEW) TO EVAP (EXT FINS)			

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83-C-2094 T-AH 19/20

ECP NO. ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REVISIONS	REMARKS
	(NEW) TO EVAP (EXISTING) T-AH 19/20			
F0031	MSC WORK SHOPS T-AH 20	SPEC SECT 80 1		FMR-136
F0032	EMERG. EYE WASH T-AH 19/20	SPEC SECT 26		FMR-137
F0033	MODIFY 3JV CIRCUIT	EXISTING DWG		FMR-141
F0034	INSTALL EEBD T-AH 19	SPEC SECT 23		FMR 163
F0035	MSC WORKSHOP T-AH 19	SPEC SECT 80-1		FMR-164
F0036	2JZ STATION FOAM STA T-AH 19/20	SPEC SECT 95		FMR 196
F0037	SHORE STEAM CONNECTION T-AH 19/20	SPEC SECT 60		FMR-198
F0038	PROVIDE/INSTALL AUTOCLAVE T-AH 20	SPEC SECT 26		FMR-224
F0039	ADDITIONAL DIAL TELEPHONES T-AH 20	SPEC SECT 95		FMR-223
F0040	LIFEBOAT STAT 1-10 MODIFY T-AH 20	DWG		FMR 214
F0041	ADDITIONAL PORTABLE CO2 EXTINGUISHER T-AH 20	DWG		FMR-216
F0042	ADD RECEPTACLES/CUT OFF SWITCH OF 41-01 T-AH 20	DWG		FMR-218
F0043	ACCESS LADDER T-AH 20	DWG		FMR-221
F0044	DISCREPANCIES AT LITTER HOIST AREA T-AH 20	SPEC SECT 81		FMR 230
F0045	FLAMMABLE STOWAGE LKR T-AH 20	SPEC SECT 23		FMR 231
F0046	MEDICAL SECURITY CABINETS T-AH 20	SPEC SECT 26		FMR 232
F0047	CRYOGENIC DRAIN, PROTECTIVE PLATE T-AH 20	SPECT SECT A9		FMR-237

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83-C-2094 T-AH 19/20

ECP NO. ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REVISIONS	REMARKS

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

ECP NO. ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REVISIONS	REMARKS
E0048	ELEVATOR ENHANCEMENT T-AH 20	SPEC SECT 26/81		FMR-238
E0049	INSTALL EEBD T-AH 20	SPEC SECT 23		FMR-240
E0050	MECH SEALS ON MSD PUMPS T-AH 20	SPEC SECT 70		FMR-239
E0051	RELAY CONTROLLED LANTERNS T-AH 20	SPEC SECT 92		FMR-241
E0052	CORRECT D2N2 PLANT DISCREPANCIES T-AH 20	SPEC SECT 69		FMR-243
E0053	REPLACE L.O. COOLER ON FD PUMP T-AH 20	SPEC SECT 50/60		FMR-246
E0054	IDENTIFICATION LABEL PLATES T-AH 20	SPEC SECT 24		FMR-244
E0055	SAFETY/OPERATOR INSTRUCTION T-AH 20	SPEC SECT 24		FMR-247
E0056	FLEXIBLE HOSE T-AH 20	SPEC SECT 72		FMR-248
E0057	STEERING W/MARKER LIGHTS T-AH 20	SPEC SECT 9		FMR-249
E0058	EMERGENCY ESCAPE LADDER AND SCUTTLE T-AH 20	SPEC SECT 4		FMR-250
E0059	BODY TRAY DRAINS T-AH 20	SPEC SECT 26		FMR-251
E0060	ADD. MEDICAL ENTITLEMENT T-AH 20	SPEC SECT 28		FMR-252
E0061	CHLORINATION INJECTION SYS. T-AH 20	SPEC SECT 55		FMR-253
E0062	DEEP BIN STOWAGE CABINETS T-AH 20	SPEC SECT 22		FMR-254
E0063	MESS LEAF TABLES T-AH 20	SPEC SECT 26		FMR-255
E0064	CHEMICAL INJECTION SYST T-AH 20	SPEC SECT		FMR-257
E0065	INSTALL FELORUS T-AH 20	SPEC SECT 19		FMR-260

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

CER	TITLE	SOS - SER SOS - DATE	NATURE OF PROBLEM	SHEM - SER SHEM - DATE	RESOLUTION	SHS TO K SER DATE

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

ECP NO. ECP DATE	SUBJECT	AFFECTED SPECIFICATION/ AFFECTED DRAWINGS	REVISIONS	REMARKS
F0066	POTABLE WTR PIPING T-AH 20	SPEC SECT 74		FMR-261
F0067	POTABLE WTR CROSS CONNECT T-AH 20	SPEC SECT 74		FMR-263
F0068	FIRE MAIN SYSTEM METTEF T-AH 20	SPEC SECT 58		FMR 265
F0069	ELECTRICAL DISCREPANCIES T-AH 20	SPEC SECT 90		FMR-266
F0070	COMMUNICATION CENTER, MOBILE T-AH 20	SPEC SECT 93		FMR-267
F0071	METTEE STM SUP OUTOUT T-AH 20	SPEC SECT 17		FMR 270
F0072	10° GATE VL T-AH 20	SPEC SECT 59		FMR-272
F0073	STEERING GEAR T-AH 20	SPEC SECT 81		FMR-273
F0074	MODIFICATION TO DENTAL AREA T-AH 20	SPEC SECT 26		FMR-282
F0075	REPLACE CHECK VL IN S.S. CONTROL AIR T-AH 20	SPEC SECT 50		FMR-294
F0076	AIRCRAFT WARNING LIGHTS T-AH 20	SPEC SECT 92		FMR 297
F0077	SCHEDULE ADJUSTMENT T-AH 20	SPEC F DELIVERIES		FMR-298
F0078	SHORE CONNECTION TELEPHONE T-AH 20	SPEC SECT 95		FMR-302
F0079	MUD FREEZE STOKES TO BULK STOW T-AH 20	SPEC SECT 66		FMR-304
F0080	CORRECT UPDATED TRIAL CARDS T-AH 20	SPEC SECT 26/DWG		FMR-305
FN002	TOW TRACTOR T-AH 19/20	SPEC SECT 82		FMR-2
FN010	SEWAGE TREATMENT PLANT T-AH 19	SPEC SECT 70 COST/FEASIBILITY STUDY		FMR-11
FN012	UNDERWATER PAINT	SPEC SECT 14		FMR-13

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

CFR	TITLE	SUS SER SOS DATE	NATURE OF PROBLEM	SHFM - SER SHFM - DATE	RESOLUTION	SHS TO K SER DATE

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

ECP NO. / ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REVISIONS	REMARKS
	T-AH 19			
FN013	REPAIR BOILER EXPANSION JOINTS T-AH 19	SPEC SECT 61 IDR 7438:716:803:00	3/30/85	FMR-16
FN014	F/S ANCHOR WINDLASS T-AH 20	SPEC SECT 81		FMR-17
FN015	FIRE & BUTTERWORTH PUMP T-AH 20	SPEC SECT 58		FMR-18
FN016	BILGE & BALLAST PUMP T-AH 20	SPEC SECT 58		FMR-19
FN017	FIRE & BUTTERWORTH & ACCESSORIES T-AH 20	SPEC SECT 58		FMR-20
FN018	CLEAN BALLAST PUMP TURBINE T-AH 20	SPEC SECT 58		FMR-21
FN019	#3 MOORING WINCH T-AH 19	SPEC SECT 81		FMR-22
FN020	OPEN/INSPECT MOORING WINCHES 1,2,4,5 & 6 T-AH 19	SPEC SECT 81		FMR-23
FN021	OPEN/INSPECT MOORING WINCHES #1 THROUGH #6 T-AH 20	SPEC SECT 81		FMR-24
FN022	MAIN CONDENSER REPAIRS T-AH 20	SPEC SECT 60		FMR-25
FN023	#2 MAIN CONDENSATE PUMP REPAIR T-AH 20	SPEC SECT 73		FMR-26
FN024	MAIN STEAM STRAINER T-AH 20	SPEC SECT 63		FMR-27
FN025	TURBO GEN SURF AIR COOLER T-AH 20	SPEC SECT 77		FMR-28
FN026	#1 & #2 MAIN LUBE OIL COOLERS T-AH 20	SPEC SECT 57		FMR-29
FN027	CONTROL AIR COMPRESSOR T-AH 20	SPEC SECT 72		FMR-30
FN028	CLEAN BALLAST PUMP LIQUID END T-AH 20	SPEC SECT 73		FMR-31
FN029	OPEN/INSPECT MAIN PROPULSION	SPEC SECT 50		FMR-32

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

CFR	TITLE	SOS - SER / SOS - DATE	NATURE OF PROBLEM	SHEM - SER / SHEM - DATE	RESOLUTION	SDS TO K SER / DATE
	[illegible]	[illegible]	EMERGENCY POWER TO SELECTED	104[illegible] PMS383	APPROVED WAIVER OF	150 734

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

ECP NO. ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REVISIONS	REMARKS
	EQUIPT T-AH 19			
FN030	OPEN/CLOSE REDUCTION GEARS T-AH 20	SPEC SECT 52		FMR-33
FN031	P/S STORE DAVITS T-AH 20	SPEC SECT 81		FMR-34
FN032	H.P. TURBINE T-AH 20	SPEC SECT 51		FMR-35
FN033	P/S STORE DAVITS T-AH 19	SPEC SECT 81		FMR-36
FN034	L.P. TURBINE T-AH 20	SPEC SECT 51		FMR-37
FN035	BOILER STACK (INNER) T-AH 19	SPEC SECT 61		FMR-38
FN036	#2 MAIN CIRC PUMP T-AH 20	SPEC SECT 60		FMR-39
FN037	TURBO GEN REDUCTION GEAR T-AH 20	SPEC SECT 50		FMR-40
FN038	GLAND EXHAUSTER CONDENSER T-AH 20	SPEC SECT 60		FMR-41
FN039	TURBO: GENERATOR TURBINE	SPEC SECT 50		FMR-43
FN040	#2 MAIN FEED PUMP	SPEC SECT 60		FMR-44
FN041	MEDICAL STOWAGE FEASIBILITY STUDY	SPEC SECT 23		FMR-46
FN042	OPEN/CLOSE REDUCTION GEAR	SPEC SECT 52		FMR-51
FN043	PAINT POTABLE & DISTILLED WATER TANKS T-AH 19	SPEC SECT 14		FMR-52
FN044	REPAIRS TO #4 MOORING WINCH T-AH 19	SPEC SECT 81		FMR-53
FN045	REPAIRS TO #5 MOORING WINCH T-AH 19	SPEC SECT 81		FMR-54
FN046	REPAIRS TO #6 MOORING WINCH T-AH 19	SPEC SECT 81		FMR-55
FN047	PAINT MACHINERY SPACES	SPEC SECT 14		FMR-56

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

CFR	TITLE	SOS - SER SOS - DATE	NATURE OF PROBLEM	SHPM - SER SHPM - DATE	RESOLUTION	SOS TO K SER DATE
[illegible]	MEDICAL FORT ON	[illegible]	EMERGENCY POWER TO SELECTED	10/5 FMS381	APPROVED WAIVER OF	150 734

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

ECP NO. / ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REVISIONS	REMARKS
	T-AH 19			
FN048	REPAIR TO BOILER STACK PANT LEG T-AH 19	SPEC SECT 61		FMR-57
FN049	PAINT PUMP RM BILGES & STEERING RM T-AH 19	SPEC SECT 14		FMR-58
FN050	PAINT BOILER INNER STACK T-AH 19	SPEC SECT 14		FMR-60
FN051	REPAIR TO #2 L.O. PUMP T-AH 19	SPEC SECT 73		FMR-062
FN052	REPAIR #1 MOORING WINCH HYD MTR/EMP T-AH 20	SPEC SECT 81		FMR-66
FN053	REPAIR #2 MOORING WINCH HYD MTR/EMP T-AH 20	SPEC SECT 81		FMR-67
FN054	REPAIR #3 MOORING WINCH HYD MTR/EMP T-AH 20	SPEC SECT 81		FMR-68
FN055	REPAIR #4 MOORING WINCH HYD MTR/EMP T-AH 20	SPEC SECT 81		FMR-69
FN056	REPAIR #5 MOORING WINCH HYD MTR/EMP T-AH 20	SPEC SECT 81		FMR-70
FN057	REPAIR #6 MOORING WINCH HYD MTR/EMP T-AH 20	SPEC SECT 81		FMR-71
FN058	REPAIR #3 MOORING WINCH-MECHANICAL T-AH 20	SPEC SECT 81		FMR-73
FN059	REPAIR #1 MOORING WINCH-MECHANICAL T-AH 20	SPEC SECT 81		FMR-74
FN060	REPAIR #2 MOORING WINCH-MECHANICAL T-AH 20	SPEC SECT 81		FMR-75
FN061	GRILLES AND DIFFUSERS T-AH 19	SPEC SECT 12		FMR-76
FN062	JACKSTAFFS ON LIFEBOATS	SPEC SECT 10		FMR-77
FN063	REPAIR #6 MOORING WINCH-MECH T-AH 20	SPEC SECT 81		FMR-78
FN064	REPAIR #5 MOORING WINCH-MECH T-AH 20	SPEC SECT 81		FMR-79
FN065	REPAIR #4 MOORING WINCH-MECH	SPEC SECT 81		FMR-80

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

CER	TITLE	SDS - SER / SDS - DATE	NATURE OF PROBLEM	SHEM - SER / SHEM - DATE	RESOLUTION	SDS TO K SER DATE
1	MEDICAL EQPT ON	151-309	EMERGENCY POWER TO SELECTED	10A% FMS183	APPROVED WAIVER OF	150 734

DATE: September 23, 198

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T AN 19/20

ECP NO. / ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REVISIONS	REMARKS
	T-AH 20			
FN066	TELEPHONE INVOICE PAYMENT T-AH 19	H 12 OF CONTRACT		FMR-82
FN067	FIRE DAMAGE T-AH 19	N-22 OF CONTRACT		FMR-81
FN068	BOLTS--CLEAN BALLAST PUMP T-AH 20	SPEC SECT 50		FMR 83
FN069	PAINT FOC'SLE DECK MN DK T AH 19	SPEC SECT 14		FMR-84
FN070	PAINT 01 LVL DK PASSAGE T AH 19	SPEC SECT 14		FMR-85
FN071	PAINT FAN RM MN DK T-AH 19	SPEC SECT 14		FMR-86
FN072	SHOWER DR/SHOWER CURTAINS T-AH 19	SPEC SECT 6 & 19		FMR-87
FN073	CURTAINS, PILLOWS & MATTRESS T AH 19	SPEC SECT 19		FMR H8.1
FN074	TERRAZO DK IN GALLEY T AH 19	SPEC SECT 6		FMR-89
FN075	LAUNDRY EQUIPMENT T AH 19	SPEC SECT 18		FMR-90
FN076	GALLEY EQUIPMENT T-AH 19	SPEC SECT 17		FMR-91
FN077	VENT SYSTEMS T-AH 20	SPEC SECT 12		FMR-92
FN078	TEST OPERATIONAL NEAT RUNS T AH 19/20	SPEC SECT 101		FMR-63
FN079	REPAIR #1 L.O. PUMP T-AH 19	SPEC SECT 73		FMR-93
FN080	OPEN/CLOSE MN REDUCTION GEAR T-AH 20	SPEC SECT 52		FMR-94
FN081	DAMAGE CONTROL STOREROOM T-AH 19/20	APPENDIX I		FMR-97
FN082	ALIGNMENT CHECK OF SNAFT T AH 19/20	SPEC SECT 53		FMR-98

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

CFR	TITLE	SQS - SER / SQS - DATE	NATURE OF PROBLEM	SHEM - SER / SHEM - DATE	RESOLUTION	SUB TO K SER / DATE
1	MEDICAL EQPT ON EMERGENCY	151-309 20 MAR 84	EMERGENCY POWER TO SELECTED MEDICAL AREAS AND EQPT	1065, PMS383 22 MAY 84	APPROVED WAIVER OF COAST GUARD REQUIREMENTS	150-734 13 JUN 84

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

ECP NO. ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REVISIONS	REMARKS
FN083	BOILER CROSS MEMBER T AH 19	SPEC SECT 61		FMR-102
FN084	SKED A ITEMS 1 AH 19	GFFR 8008,8009,8010,8011/8012		FMR-105.1
FN085	GOVERNMENT RESPONSIBLE DEFICIENCIES	SPEC SECT 1		FMR-106
FN086	MSC CONTRACT CREW	C.O.R.		FMR-107
FN087	REFRIGERATED AIR DRYER	SPEC SECT 72		FMR-108
FN088	TELEPHONE INVOICE PAYMENT T-AH 19	H-22 OF CONTRACT		FMR-109
FN089	LADDER FOR EXTERIOR STACK T-AH 19/20	SPEC SECT 1		FMR-110
FN090	ABS FEES	H-21 OF CONTRACT		FMR-128
FN091	FEASIBILITY STUDY ADDITIONAL LOGISTIC SUPPORT/ADMIN SPACES 1 AH 19/20	H-19 OF CONTRACT		FMR-129
FN092	REFILE 01-91-0 & 1-100-0 T-AH 19	SPEC SECT 6		FMR-130
FN093	CREDIT UNUSED MONIES FROM FMR 106 T-AH 19	SPEC SECT 1		FMR-132
FN094	REPLACE 7 600 LB VALVES IN AUX STM SYST. T-AH 20	SPEC SECT 61		FMR-133.1
FN095	REMOVE BOILER TUBES FOR INSPT. T-AH 19	SPEC SECT 61		FMR-134
FN096	REPLACE MAGNETS IN L.O. STRAINERS T AH 19/20	SPEC SECT 57		FMR-135
FN097	REPAIR F.W. DRAIN TANK FMF T-AH 19	SPEC SECT 73		FMR-138
FN098	REMOVE BOILER TUBES FOR INSPT. T-AH 20	SPEC SECT 61		FMR-139
FN099	RECOAT TERRAZO DECK (MSC CREW) T AH 19	SPEC SECT 6		FMR-140
FN100	INSURANCE CLAIM T-AH 19	H-22 OF CONTRACT		FMR-142
FN101	PAINT/REPLACE LAGGING IN	SPEC SECT 7 & 14		FMR-143

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

CER	TITLE	SDS - SER DATE	NATURE OF PROBLEM	SHEM - SER DATE	RESOLUTION	SDS TO K SER DATE

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83-C-2094 T-AN 19/20

FCP NO. / FCF DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REVISIONS	REMARKS
	EXISTING MACH. SPACE T AH 19			
FN102	PAINT STEERING RM T-AH 20	SPEC SECT 14		FMR-144
FN103	PAINT FORT FAN RM MN DK T-AH 20	SPEC SECT 14		FMR-145
FN104	RESEAL SHOWER DECKS T-AN 20	SPEC SECT 6 & 19		FMR-146
FN105	RECOAT/RESEAL GALLEY DK (MSC) T-AH 20	SPEC SECT 6		FMR-147
FN106	CURTAIN/MATRESS REPLACE T-AN 20	SPEC SECT 19		FMR 148
FN107	REPLACE CARPETS IN AFT HOUSE T-AH 19/20	SPEC SECT 6		FMR-149
FN108	REPLACE ICE MAKERS T-AH 19/20	SPEC SECT 17		FMR-150
FN109	REPLACE CURTAINS/TIE BACK (MSC WORK) T AH 19	SPEC SECT 19		FMR-151
FN110	PAINT FOC'LE AREA MN DK T AH 20	SPEC SECT 14		FMR-152
FN111	REFILE 02 LVL PASSAGEWAY AFT DK T-AH 19/20	SPEC SECT 6		FMR-153
FN112	TRIAL AGENDA DELTA			FMR-155
FN113	TELEPHONE INVOICE N 22 OF CONTRACT			FMR 154
FN114	REPAIR SHED A ITEM 008.001	GFFR 8027		FMR-157
FN115	REPAIR SHED A ITEM 004.02/005.04	GFFR NO.8/8029		FMR-160
FN116	PROVIDE ONE SNIFSET 7(600 LB) VALVES IN AUX STM SYST T AN 19	SPEC SECT 61		FMR 161
FN117	PROVIDE SPARE STRAINER BASKETS T-AH 19/20	SPEC SECT 57		FMR 162
FN118	MINOR GOV DEFICIENCIES T-AH 19	SPEC SECT 1		FMR-165
FN119	FURNITURE EXISTING HOUSE T-AN 19/20	SPEC SECT 19		FMR-166
FN120	CHILL STORES	SPEC SECT 66		FMR 168

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T AN 19/20

CER	TITLE	SOS - SER / SOS - DATE	NATURE OF PROBLEM	SHEM - SER / SHEM - DATE	RESOLUTION	SHS TO K SER DATE

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

ECP NO. ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REVISIONS	REMARKS
	T-AH 19			
FN121	TECH LIBRARY SERVICE T-AH 19			FMR-169
FN122	REMOVE BOILER TUBES FOR INSPECTION T-AH 19	SPEC SECT 61		FMR-170
FN123	PIPE IDENTIFICATION T-AH 19	SPEC SECT 14		FMR-171
FN124	ADDITIONAL DEMONSTRATION OF LIFEBOATS & LIFERAFTS T AH 19	SPEC SECT 16		FMR-172
FN125	HYDR STBD BOILER T-AH 19	SPEC SECT 61		FMR-173
FN126	ELECTRICAL MATERIAL	SPEC SECT 26		FMR-174
FN127	CANCELLATION CHARGE T AH 19	SPECIAL PROVISIONS H-18		FMR 158
FN128	CANCELLATION CHARGE T AH 19	SPECIAL PROVISIONS H-18		FMR 159
FN129	GUARANTEE ENGINEER T AH 19	SPECIAL PROVISIONS H-5		FMR-175
FN130	GOVERNMENT DISCREPANCIES T AH 19	SPEC SECT 1		FMR-186
FN131	CABINET LOCKS	SPEC 86		FMR 188
FN132	PAINT MACHINERY SPACES T-AH 20	SPEC SECT 14-71		FMR 187
FN133	PAINT DECK 1-101-271-103 0 T AH 19	SPEC SECT 11		FMR 189
FN134	PAINT INNER STACK T AH 20	SPEC SECT 14		FMR 190
FN135	TITIVATE SHIP T-AH 19	IDR 7438:726:863:00		FMR 191
FN136	DISCREPANCIES IN ENG RM T AH 19	IDR 7438:726:861 & 865		FMR 192
FN137	REMOVE LOCKER T AH 19	IDR 7438:726:862:00		FMR 193
FN138	LAGGING T AH 19			FMR 176

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

CPR	TITLE	SOS - SER SOS - DATE	NATURE OF PROBLEM	SHPM - SER SHPM - DATE	RESOLUTION	SDS TO K SER DATE

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

ECP NO. / ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REVISIONS	REMARKS
FN139	LAGGING T-AH 19			FNR-177
FN140	LAGGING T-AH 19			FNR-178
FN141	PAINT EXIST ELEV. SHAFT T-AH 19	SPEC SECT 14		FNR-194
FN142	NON-SKID APPLICATION T-AH 20	SPEC SECT 14		FNR-195
FN143	SNAP II COMPUTER T-AH 19	SPEC SECT 26		FNR-197
FN144	REPAIR DAMAGE LAGGING T-AH 19			FNR-199
FN145	O.F. DOORS T-AH 20	SPEC SECT 47/26		FNR-200
FN146	WATER COOLER T-AH 19	SPEC SECT 20		FNR-201
FN147	WATER COOLER T-AH 20	SPEC SECT 20		FNR-202
FN148	LAGGING/PAD T-AH 20	SPEC SECT 7		FNR-203
FN149	PAINT STAIRWELL 1 (00-0 T-AH 19	SPEC SECT 14		FNR-204
FN150	TIMBER HOLES AUX ENG RM BILGES T-AH 19/20	SPEC SECT 50		FNR-205
FN151	ID TAPE ON SWITCHBOARD AUX ENG RM T-AH 19/20	SPEC SECT 14		FNR-206
FN152	PAINT DK'S IN 01 91-1/01 9L 2 T-AH 19	SPEC SECT 14		FNR-207
FN153	LABEL PLATES T-AH 19	SPEC SECT 11		FNR-208
FN154	CONSTANT TENSION WINCH T-AH 19/20	SPEC SECT 81		FNR-209
FN155	MODIFY OFFICE 03 9L 2 T-AH 19	SPEC SECT 1		FNR-210
FN156	OXYGEN DRAIN PIPING	SPEC SECT 11		FNR-211

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

ECP NO. / ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REVISIONS	REMARKS

DATE: September 23, 1987 NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

ECP NO. / ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REVISIONS	REMARKS
	T-AH 19/20			
FN157	REPLACE SINK IN I-50-1 BOILED UTILITY T-AH 20	SPEC SECT 26 WTA-052 T-AH 19		FMR-225
FN158	BOILER INSPECTION ASSISTANCE T-AH 20	SPEC SECT 61		FMR-226
FN159	TELEPHONE INVOICE	H22 OF CONTRACT		FMR-222
FN160	STRETCHER SECURING BRACKETS (ELEVATOR) T-AH 20	SPEC SECT 26/81		FMR-215
FN161	ID SWITCHBOARD PANELS EMERG. DIESEL SWBD T-AH 20	SPEC SECT 50		FMR-217
FN162	INCREASE STOWAGE PHARMACY VAULT T-AH 20	SPEC SECT 26		FMR-219
FN163	PORTABLE LADDER ACCESS TO 3-39-1	SPEC SECT 5		FMR-220
FN164	PORTABLE EYEWASH STATIONS T-AH 20	SPEC SECT 26		FMR-228
FN165	LOAD TEST P/S STORES CRANES T-AH 20	SPEC SECT 81		FMR-229
FN166	LABEL PLATES FOR VLS E.D. T-AH 20	SPEC SECT 24		FMR-233
FN167	MODIFY STRETCHER BRACKETS T-AH 20	SPEC SECT 81		FMR-234
FN168	ELECTRICAL WORK BENCHES T-AH 20	SPEC SECT 80		FMR-235
FN169	EXHAUST DUCTS ON REFER UNITS T-AH 20	SPEC SECT 12		FMR-236
FN170	REPAIR GOV. FURNISH MATERIAL T-AH 19	SKED A		FMR-243
FN171	CLEAN WATERSIDES & REPAIR ON T-AH 20	SPEC SECT 61		FMR-256
FN172	CAMEL-FLOTATION T-AH 20	SPEC SECT 5		FMR-245
FN173	RETRACTABLE BOOT BLOWERS T-AH 20	SPEC SECT 61		FMR-258
FN174	CREDIT UNUSED MONIES FROM FMR-165 T-AH 19	SPEC SECT 1		FMR-259

DATE: September 23, 1987 NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

CFR	TITLE	SDS - SER / SDS - DATE	NATURE OF PROBLEM	SHEM - SER / SHEM - DATE	RESOLUTION	SDS TO A SER DATE
1	MEDICAL EQPT ON	151 309	EMERGENCY POWER TO SELECTED	1045 FMSTR3	APPROVED WAIVER TO	150 234

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

FEF NO. FEF DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REVISIONS	REMARKS
FN175	PORTABLE F.F. EMOTE IN ENG. ROOM T-AH 20	SPEC SECT 13		FMR-262
FN176	VENT/DRAIN VLS F.O. DUPLEX STRAINER T-AH 20	SPEC SECT 56		FMR-264
FN177	SECURING WEAPON LOCKERS T-AH 20	SPEC SECT 26		FMR-268
FN178	750KW STBY DIESEL GEN T-AH 20	SPEC SECT 88		FMR-269
FN179	REPAIR AT SOOF BLOWERS T-AH 20	SPEC SECT 61		FMR-271
FN180	LITTER HOIST FAMILIARIZATION T AH 20	SPEC SECT 100		FMR-274
FN181	ADDITIONAL TIE DOWNS T AH 20	SPEC SECT 26		FMR-275
FN182	TELEPHONE INVOICE T AH 20	H-22 OF CONTRACT		FMR-276
FN183	MODIFICATIONS TO PHARMACY T AH 20	SPEC SECT 26		FMR-277
FN184	CALCIUM HYPOCHLORITE CABINETS T AH 20	SPEC SECT 23		FMR 278
FN185	ADDITIONAL ORIENTATION ON ELEVATORS T AH 20	SPEC SECT 100		FMR 279
FN186	ELEVATOR DOOR LOCKOUT T AH 20	SPEC SECT 100		FMR 280
FN187	STORAGE SHELVES, ENCLOSED	SPEC SECT 26		FMR 281
FN188	6" SHORE STEAM CONNECT T-AH 20			FMR-283
FN189	PAINT EXIST ELEVATOR T-AH 20	SPEC SECT 14		FMR 284
FN190	PAINT STAIRWELL 1 100 0 T AH 20	SPEC SECT 14		FMR-285
FN191	RESEAL SHOWER DECKS T AH 20	SPEC SECT A		FMR 286
FN192	INSTALL HALON GUARDS T-AH 20	SPEC SECT 13		FMR-288

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T AH 19/20

CFR	TITLE	SOS - SER SOS - DATE	NATURE OF PROBLEM	SHFM - SER SHFM - DATE	RESOLUTION	SHS TO N SER DATE
1	MEDICAL EQPT ON EMERGENCY SWITCHBOARD	151 309 20 MAR 84	EMERGENCY POWER TO SELECTED MEDICAL AREAS AND LIFT CORRECT PAGE 16 COAST GUARD DOES NOT PERMIT	1065 FMS184 22 MAY 84	APPROVED WAIVER OF COAST GUARD REQUIREMENTS	150-714 13 JUN 84

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T AN 19/20

ECP NO. / ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REVISIONS	REMARKS
FN193	RETILE AREAS OF AFT HOUSE T-AN 20	SPEC SECT 6		FMR 289
FN194	RETOP & RESEAL DECKS IN 01 91 1 AND 01-91-2 T AN 20	SPEC SECT 6		FMR-290
FN195	CORRECT TRIAL DISCREPANCIES T-AN 20	SPEC SECT 13/26		FMR 291
FN196	VENT SCREEN DETERIORATED, REPLACE T-AN 20	SPEC SECT 12		FMR-292
FN197	PAINT INTERIOR AFT HOUSE	SPEC SECT 14		FMR-293
FN198	PREPARATION CHARGE FOR ELEC C 005 T AN 19	H-1B SPECIAL PROVISIONS		FMR 295
FN199	CRES SHEATHING ON SIM PIPES T-AN 20	SPEC SECT 11		FMR-196
FN200	REPLACEMENT TANKS FOR ELEVATOR T-AN 20	SPEC SECT 81		FMR-299
FN201	CORRECT DISCREPANCIES AFT OR HOUSE MED ELEVATORS T AN 20	SPEC SECT 12/81		FMR-300
FN202	UPDATE ENGRS OPERATING MANUAL T-AN 20	ADDENDUM II OF SPECS		FMR 303
FN203	RETILE 01-96 0 T AN 20	SPEC SECT 6		FMR-306
FN204	VIRMAK CABINET LOCKS T AN 20	SPEC SECT 21		FMR 307
FN205	WORK COUNTER/FILE CABINET 01-67-0 T-AN 20	SPEC SECT 26		FMR 308
FN206	ULTRONIC TEST/INSPECT BUTLER PIPING & TUBES T AN 20	SPEC SECT 61		FMR-309
FN207	REPAIR SHED A ITEMS T AN 20	SPEC H040,8041,H042,H043		FMR-311
FN208	MOD TO BUTLDER TRIAL AGENDA T AN 20			FMR 312
FN209	MN. ENGINE/SSDG COOLING			
FN210	TELEPHONE INQUIRE	H 22 OF CONTRACT		FMR-314
FN211	MINOR GOVERNMENT DEFICIENCIES			FMR-315

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AN 19/20

CFR	FILE	SDS - SER / SDS - DATE	NATURE OF PROBLEM	SNFM - SER / SNFM - DATE	RESOLUTION	SDS FO R SER DATE

DATE: September 23, 198[illegible]

NAVSEA CONTRACT NUMBER N00024-83-C-2074 [illegible] 19/20

ECP NO. ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REVISIONS	REMARKS
EN212	TRIAL MATTRESS			EMR 316
EN213	PAINT ACCESS TO MAIN MACHINERY ROOM			EMR 317
EN214	PAINT BULKHEAD FR 129			EMR 318
EN215	PAINT 21 FT. 6 IN. LEVEL			EMR 319
EN216	PAINT ENGINE ROOM CONSOLE			EMR 320
EN217	RELEASE MAIN FEED PUMP VALVES/PIPING			EMR 321
EN218	PAINT DECK AT OPERATING LEVEL			EMR 322
EN219	CANCELLATION CHARGE ECP C-014			EMR 323
EN220	PAINT BLKHD/OVHD MAIN DK FOR SEE AREA	SPEC SECTION 14		EMR 324
EN221	CANCELLATION CHARGE ECP C-013	[illegible] SPECIAL PROVISION		EMR 325
EN222	REFR 5 8044, 8047, 8048, 8049, 8053, 8054			EMR 326
EN223	OXYGEN SYSTEM AUTO CUTOUT VALVES	SPEC SECT 67		EMR 327
EN224	PROVIDE TEMP. OFFICE SPACE			EMR 328
EN225	O.N2 PLANT TRAINING			EMR 329
EN226	ELECT POWER FOR RADIATOR FAN, E.D.G.			EMR 330
EN227	PAINT OLD HOUSE FAN PLENUM			EMR 331
H-001	RADAR SYSTEMS	SPEC SECT 94		HMR 1
H-003	DISTILLING PLANT	SPEC SECT 50 [illegible] 63		HMR 3
H-004	SHOWER FACILITIES IN U.K.	SPEC SECT [illegible]		HMR 6
H-007	AUTHORIZED MED ALLOW LIST	SPEC SECT [illegible]		HMR 7
H-008	HELICOPTER STARTING AUXILIARY POWER UNIT (ACU)	SPEC SECT [illegible]		HMR 8
H-009	SEWAGE TREATMENT SYSTEMS	SPEC SECT 11/23/50/58/70		HMR-10
H-012	DENTAL CENTRAL EVACUATION SYST. ON [illegible] 19/20	SPEC SECT 26		HMR 11

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2074 [illegible] 19/20

ECP NO. ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REVISIONS	REMARKS
H-013	CORRECTION TO SPEC A & E			HMR [illegible]

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 1 AH 19/20

ECP NO. / ECP DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REVISIONS	REMARKS
H-013	CORRECTION TO SEED A & C			HMR-1
H-014	PAINT BALLAST TANKS 1 AH 20	SPEC SECT 14		HMR-061
H-015	INCREASE MED SUPPLY STOWAGE	SPEC SECT 26		HMR-013
H-016	NOT RECEIVED			
H-017	LIFERAFT MODIFICATIONS	SPEC SECT 16		HMR-14
H-018	NOT RECEIVED			
H-019	ADD SNAP II SYSTEMS	SPEC SECT 26		HMR-16
H-020	COMPUTED AXIAL TOMOGRAPHY (CAT) SCANNER 1 AH 19/20	SPEC SECT 26		HMR-17
H-021	ACCEPTANCE TRIAL	SPEC SECT 101		HMR-18
H-022	RED BLOOD CELL FREEZER CO2 BACKUP SYSTEM	SPEC SECT 26		HMR-19
H-023	ACCOMMODATION LADDER PATIENT EMBARKATION	SPEC SECT 5		HMR-20
H-024	33 FT OT BOAT STOWAGE	SPEC SECT 16		HMR-21
HN001	TECHNICAL MANUALS (TM)	AWAITING CONTRACTUAL ACTION (7/11/84)		HMR-4
HN002	LDRC CHANGES			HMR-5
HN003	SCHEDULE A MOD AND LDRC PAGE CORRECTION	SEED A & LDRC		HMR-[illegible]
HN018	CHANGE TO APPENDIX K AND CONTRACTOR FURNISHED TOL	APPENDIX K-LE TOL		HMR-15
HN024	POST DELIVERY AVAILABILITY	SPEC SECT 1		HMR-22

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 1 AH 19/20

RFD NO.	RECEIVED DATE	ACTION DATE	DESCRIPTION	REMARKS
0001A	06 DEC 83		02N2 PLANTS	CANCELLED BY CONTRACTOR ON 01/20/84

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83 C 2094 — T AH 19/20

REQ NO.	RECEIVED DATE	ACTION DATE	DESCRIPTION	REMARKS
0001A	06 DEC 83		O2N2 PLANTS	CANCELLED BY CONTRACTOR ON 01/30/84 (LTR FA21 AH 19/FM/84/Y2-052)
0002A	02 FEB 84		BALLAST TANKS ARRANGEMENT	APPROVED ON 7/17/84 - T AH 19
0002B	27 JUL 84		BALLAST TANKS ARRANGEMENT	APPROVED ON 8/24/84 - T AH 20
0003A/B	10 MAY 84		CASUALTY RECEPTION OXYGEN PIPING	APPROVED BY LETTER (WITH COMMENTS) 150 2076 LETTER DATED 8/24/84
0004A/B	10 MAY 84		HIGH & LOW PRESSURE OXYGEN PIPING	APPROVED ON 8/24/84 - T AH 19/20
0005A	15 MAY 84		EXTERIOR WEATHERTIGHT JOINER DOORS	APPROVED ON 8/25/84 - T-AH 19
0005B	27 JUL 84		EXTERIOR WEATHERTIGHT JOINER DOORS	APPROVED ON 8/24/84 - T AH 20
0006A/B	14 MAY 84		FAN DOOR RETAINER	APPROVED ON 8/9/84 - T AH 19/20
0007A	23 MAY 84		O2N2 PLANT - SHOCK TEST	APPROVED ON 7/10/84 - T AH 19
0007B	27 JUL 84		O2N2 PLANT - SHOCK TEST	APPROVED ON 8/24/84 - T AH 20
0008A	11 JUN 84		OXYGEN BOTTLE STOWAGE	DISAPPROVAL BY LETTER SEA 150 .048 OF 8/22/84
0009A	19 JUN 84		SLIDING DOOR FR 85	DISAPPROVED LTR SEA 150 907 OF 7/11/84
0010A	02 JUL 84		FEELING WEIGHTS	DISAPPROVED LTR SEA 150-908 OF 7/11/84
0011A	10 JUL 84		ELEVATOR DOOR SILL HEIGHT	APPROVED ON 7/18/84 - T-AH 19
0011B	22 AUG 84		ELEVATOR DOOR SILL HEIGHT	CANCELLED BY CONTRACTOR ON 11/13/84 (LTR FA21 AH 20/FM/84/Y2-217)
0012A/B	07 AUG 84		DENTAL X RAY MACHINE/CHAIR	APPROVED ON 8/20/84
0013A/B	20 AUG 84		ELEVATOR ENCLOSURE	CANCELLED BY CONTRACTOR ON 09/26/84 (LTR FA21 AH/FM/84/Y2-183)
0014A/B	12 SEP 84		BLOOD BANK REFRIGERATORS	APPROVED ON 10/1/84
0015A/B	26 SEP 84		LINEN HOISTING AREA (CASES)	APPROVED ON 10/23/84
0016A/B	18 OCT 84		OXYGEN BOTTLE STOWAGE (REVISED)	APPROVED ON 10/23/84
0017A/B	18 OCT 84		ACCUMULATOR TANK	APPROVED BY LTR SEA 150 529 OF 3/31/85 (WITH EXCEPTIONS)
0018A/B	18 OCT 84		LETTER HOIST OUTREACH	APPROVED ON 10/19/84
0019A/B	24 OCT 84		REARRANGEMENT OF 04 LEVEL FWD	APPROVED BY LTR (WITH EXCEPTIONS) 150 2617 OF 12/04/84

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83 C 2094 — T AH 19/20

REQ NO.	RECEIVED DATE	ACTION DATE	DESCRIPTION	REMARKS
0020A/B	29 OCT 84		FUEL A02B SHIP ACCEPTANCE TEST	DISAPPROVED LTR SEA 150 2672 OF 12/17/84

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

RFD NO.	RECEIVED DATE	ACTION DATE	DESCRIPTION	REMARKS
0020A/B	29 OCT 84		CORE A028 SHIP ACCEPTANCE TEST	DISAPPROVED LTR SER 150-2672 OF 12/17/84
0021A/B	29 OCT 84		FIRST PLATFORM DECON. AREA	DISAPPROVED BY LTR 150-2615 OF 12/04/84
0022A/B	29 NOV 84		SLIDING DOOR FR 85 F/S REVISED	APPROVED ON 1/9/85
0023A/B	11 JAN 85		HEADROOM 02-54 0	APPROVED (W/COMMENTS) LTR 150 213 OF 2/4/85
0024A/B	16 JAN 85		FIRST PLATFORM DECON AREA (REVISED)	APPROVED ON 1/28/85
0025A/B	08 FEB 85		INSULATION - TUFTSEAL 1613	APPROVED ON 2/20/85
0026A/B	27 FEB 85		AFT CROSS PUCATION	APPROVED ON 2/25/85
0027A/B	27 FEB 85		HALON SYSTEM: DESIGN	APPROVED ON 2/25/85
0028A/B	06 MAR 85		O2N2 COMPRESSOR MTR CONTROLLER	APPROVED ON 3/11/85
0029A/B	11 MAR 85		INTERIOR HANDRAIL CLEARANCE	APPROVED ON 3/15/85
0030A/B	17 MAY 85		BOTTOM SHELL PAINTING	APPROVED ON 6/24/85
0031A/B	29 MAY 85		PAINT ALUMINUM ALLOY PLATE	APPROVED ON 6/6/85
0032A/B	12 JUN 85		VALVE LABEL PLATES	APPROVED ON 6/24/85
0033A/B	27 JUN 85		ACCUMULATOR TANK (REV REF 17 A/B)	APPROVED ON 7/17/85
0034A/B	24 JUN 85		LIFE PRESERVER LOCKERS	APPROVED ON 7/9/85
0035A/B	18 JUL 85		HOSPITAL SHIP LETTERING	APPROVED ON 7/25/85
0036A/B	23 JUL 85		SIDE HINGE DOORS	APPROVED ON 7/29/85
0037A/B	06 JUN 86		DELETION OF DFT TITE	APPROVED ON 6/30/86
0038A/B	15 MAY 87		ADHESIVE FOR REPLACEMENT DFT TITE	CANCELLED BY CONTRACTOR ON 5/26/87 (LTR CAZT-AH/MC/20/292 114)

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

RFD	TITLE	SOS SOS - DATE	SER	NATURE OF PROBLEM	SHEM SHEM	SER DATE	RESOLUTION	SOS TO K SER DATE
1	MEDICAL FREE OR	15 JAN		CHECKING LINES TO DFT TIT				

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83 C-2094 F AH 19/20

REW NO.	RECEIVED DATE	ACTION DATE	DESCRIPTION	REMARKS
001A/B	10 OCT 85		DECK LOAMMINGS	APPROVED ON 10/11/85
002A/B	14 FEB 86		O2 N2 PLANT LUBRICATING SYSTEMS LOW LEVEL ALARM	APPROVED ON 3/3/86
003A/B	26 MAR 86		FLIGHT CRASH ALARM	DISAPPROVED LTR 1532/621 ON 4/14/86
004A/B	06 JUN 86		O2N2 PLANT DECK COVERING	DISAPPROVED LTR 1532/1257 ON 8/14/86
005A	02 JUL 86		LAUNDRY PASSAGE NON SKID PAINT	APPROVED W/EXCEPTIONS 1531/1117 ON 7/17/86
006A/B	07 AUG 86		OXY SYS FLUSH/CLEANLINESS	CANCELLED BY CONTRACTOR ON 3 OCT 86SER
LA/F AH/MS/86/92 820				
007A/B	21 OCT 86		LIGHTING, FOOT CANDLE REQUIREMENTS	DISAPPROVED SUBSHIP LTR 1530/1647 ON 12/9/86
008A/B	13 NOV 86		LIQUID OXYGEN HOLDING TANK	APPROVED ON 4/29/87
009A/B	02 DEC 86		FLOXY ADHESIVE FOR DECK TILE	APPROVED ON 12/8/86
010A/B	10 DEC 86		LIGHTING, FOOT CANDLE REQUIREMENTS	APPROVED ON 12/23/86
011A/B	09 JAN 87		AIRBORNE NOISE	DISAPPROVED SUBSHIP LTR 1531/461 ON 3/31/87
012A/B	26 MAY 87		ADHESIVE FOR REPLACEMENT DECK TILE	APPROVED ON 5/22/87
013A/B	8 SEP 87		DELETE EMRGY AIR SPY TO EA O2N2	

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83 C 2094 F AH 19

IDR NO. IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REMARKS
743B:74 552100	L/S LIFEBOAT MANUAL TRANSMISSION (DIESEL ENG. MANUAL TRANSMISSION)		NO ACTION REQUIRED

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19

IDR NO. IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REMARKS
7438:74 552:00 5/12/85	F/S LIFEBOAT MANUAL TRANSMISSION (DIESEL ENG. MANUAL TRANSMISSION)		NO ACTION REQUIRED
7438:74 553:00 5/12/85	FIRE & BUTTERWORTH PUMP	SPEC SECT 58	NO ACTION REQUIRED
7438:74 554:00 5/12/85	BILGE & BALLAST PUMP CHECK VALVE		NO ACTION REQUIRED
7438.766 800.00 3/21/85	TANK LEVEL INDICATORS T-AH 19	SPEC SECT 71	TO CODES 1502E/1504 ON 4/1/85 FWD TO NAVSEA 4/4/85
7438.726 801.00 REV A 3/30/85	UNDERWATER PAINT F-AH 19	SPEC SECT 14	FMR 13
7438.78/CS 802.00 3/30/85	THERMOMETERS & GAUGES	SPEC SECT 85	NASSCO FOR ACTION LTR 1510/775 4/19/85
7438:716 803:00 1/30/85	BOILER STACK	SPEC SECT 61	RECEIVED 4/23/85 EXPANSION JOINT REPAIR BY FMR 16 KA RESPONSIBILITY FOR OTHER ITEMS LTR 150/889 5/10/85
7438:72 804:00 4/29/85	BALLAST IK COATING	SPEC SECT 14	NO ACTION TAKEN
7438:74 805:00 1/30/85	WINCHES	SPEC SECT 81	LMR-22
7438:74 806:00	#3.1 FWD CENTERLINE MOORING WINCH MOTOR	SPEC SECT 81	NASSCO FOR ACTION
7438:74 807:00	#3 FWD CENTERLINE WINCH FMR	SPEC SECT 81	NASSCO FOR ACTION
7438:74 808:00	#3.2 FWD CENTERLINE MOORING WINCH MOTOR	SPEC SECT 81	NASSCO FOR ACTION
7438:74 809:00	#4.2 PORT AFT MOORING WINCH MOTOR	SPEC SECT 81	NASSCO FOR ACTION
7438:74 810:00	#4.1 PORT AFT MOORING WINCH MOTOR	SPEC SECT 81	NASSCO FOR ACTION

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 F-AH 19/20

CPR	TITLE	SOS - SER SOS - DATE	NATURE OF PROBLEM	SHFM - SER SHFM - DATE	RESOLUTION	SDS TO K SER DATE
1	MEDICAL FOET ON	151 309	EMERGENCY POWER TO SELECTED	1045 FMS383	APPROVED NATURE OF	[illegible]

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83-C-2094 T AR 19

LOG NO. LOG DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REMARKS
7438:74 M11:00	#5.1 AFT MOORING WINCH MOTOR STBD	SPEC SECT 81	NASSCO FOR ACTION
7438:74 M12:00	#5.2 AFT MOORING WINCH MOTOR STBD	SPEC SECT 81	NASSCO FOR ACTION
7438:74 M13:00	#6 AFT CENTERLINE MOORING WINCH FOAM	SPEC SECT 81	NASSCO FOR ACTION
7438:74 M14:00	#6.1 AFT CENTERLINE MOORING WINCH MOTOR	SPEC SECT 81	NASSCO FOR ACTION
7438:74 M15:00	#6.2 AFT CENTERLINE MOORING WINCH MOTOR	SPEC SECT 81	NASSCO FOR ACTION
7438:74 M18:00	#5 MOORING WINCH	SPEC SECT 81	FMR-54
7438:74 M19:00	#4 MOORING WINCH	SPEC SECT 81	FMR 53
7438:74 M20:00	#6 MOORING WINCH	SPEC SECT 81	FMR 55
7438:74 M21:00	BLAST/PAINT POTABEE & DISTILLED WATER TANKS	SPEC SECT 14	FMR-52
7438:74 M23:00	#2 LUBE OIL FOAM	SPEC SECT 50	FMR-62
7438:74 M24:00	PAINTING OF VOID SPACES	SPEC SECT 14	NO ACTION REQUIRED
7438:71 M25:00	REPAIRS TO STACK PANT LEG	SPEC SECT 61	FMR-57
7438:72 M26:00	PAINT INNER STACK	SPEC SECT 14	FMR-60
7438:75 M27:00	VENT SYS ENG RM	SPEC SECT 12	REPAIR OF VENT. GOV RESPONSIBLE FOR PAINTING FMR 58 LOG MEETING 7 NOV 85
7438:75 M28:00	GRILLS & DIFFUSERS EXISTING HOUSE	SPEC SECT 12	FMR-76
7438:72 M29:00	FOC SEE DECK-REPAINT	SPEC SECT 14	FMR-84
7438:72 M30:00	01 LEVEL DK PASSAGE-REPAINT	SPEC SECT 14	FMR 85
7438:72	FAN RM MAIN DECK	SPEC SECT 14	FMR-86

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83-C-2094 T AR 19

LOG NO. LOG DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REMARKS
M31:00			

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19

IDR NO. / IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REMARKS
831:00			
7438: 832:00	NOT RECEIVED		
7438:72 833:00	SHOWER DECK/SHOWER CURTAINS	SPEC SECT 6/19	FMR-87
7438:7 834:00	CURTAINS, PILLOWS & MATTRESS	SPEC SECT 19	FMR-88
7438:7 835:00	TERRAZO IN GALLEY	SPEC SECT 6	FMR 89
7438:7 836:00	LAUNDRY EQUIPMENT	SPEC SECT 6/18	FMR 90
7438:74 837:00	GALLEY EQUIPMENT	SPEC SECT 17	FMR 91
7438:7 838:00	PAINTING OF HATCHES, INCLINED LADDERS	SPEC SECT 14	FMR-58
438: 839:00	NOT RECEIVED		
7438:756 840:00	VENT SYSTEM	SPEC SECT 12	FMR 92
7438:0KG 841:00	LAGGING (ENG RM)	SPEC SECT 75	DEFERRED IDR MEETING 3/21/86
438:74 842:00	#1 L.O. PUMP	SPEC SECT 50	FMR-93
438:745 843:00	CORE BOILER CROSS MEMBERS SHELLOW BEALES	SPEC SECT 61	FMR 102
7438:0KG 844:00	REPLACE TILE	SPEC SECT 6	KA FOR ACTION IDR MEETING 3/21/86
7438 845:00	NOT RECEIVED		
7438 846:00	NOT RECEIVED		
7438 847:00	NOT RECEIVED		
7438 848:00	NOT RECEIVED		

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 19/20

CFR	TITLE	SOS - SER / SOS - DATE	NATURE OF PROBLEM	SHPM - SER / SHPM - DATE	RESOLUTION	SOS TO K SER / DATE
1	MEDICAL EQPT ON EMERGENCY	151-309 20 MAR 84	EMERGENCY POWER TO SELECTED MEDICAL AREAS AND EQPT	1065 FMS383 [illegible]	APPROVED WAIVER OF [illegible]	150 744

DATE: September 23, 198

NAVSEA CONTRACT NUMBER N00024 83 C 2094 1 AB 19

IDR NO. / IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REMARKS
7438 849:00	DRINKING FOUNTAIN	SEEC SECT 20	KA FOR ACTION IDR MEETING 7/29/86
7438 850:00	NOT RECEIVED		
7438 851:00	REPLACE CARPET 03 91-1/04 91 4	SEEC SECT 6	FMR-149
7438 852:00	REPLACE DECK TILE 02 LV AFT DECK HOUSE	SEEC SECT 6	FMR-153
438 853:00	SHORE CONNECTION VALVESTEMS		CODE 1500 FOR EVALUATION 8/5/86
7438 854:00	CURTAINS	SEEC SECT 19	FMR 151
7438 855:00	RETOL/SEAL TERRAZO	SEEC SECT 6	FMR 140
7438 856:00	NOT RECEIVED		
438 857:00	NOT RECEIVED		
7438 858:00	NOT RECEIVED		
7438 859:00	NOT RECEIVED		
7438 860:00	FLANGE SHIELDS	SEEC SECT 50	CODE 1500 FOR EVALUATION 11/4/86
438 861:00	ENGINE ROOM LIGHTS	SEEC SECT 92	FMR-192
7438 862:00	LOCKER	SEEC SECT 2	FMR 193
7438 863:00	CLEANING	SEEC SECT 2	FMR 191
7438 864:00	PAINT DECK EXISTING HOUSE	SEEC SECT 14	FMR 189
7438 865:00	DECK PLATES ENG RM	SEEC SECT 50	FMR 192
7438 866:00	NOT RECEIVED		

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83 C 2094 1 AB 19

IDR NO. / IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REMARKS

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83 C-2094 I-AH 19

IDR NO. IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REMARKS
7438 867:00	NOT RECEIVED		
7438 868:00	NOT RECEIVED		
7438 869:00	SEAKE L.O. STRAINER BASKETS	SEE SHT 57	FMR 162 5/1/86
7438 870:00	NOT RECEIVED		
7438 871:00	NOT RECEIVED		
7438 872:00	NOT RECEIVED		
7438 873:00	NOT RECEIVED		
7438 874:00	NOT RECEIVED		
7438 875:00	NOT RECEIVED		
7438 876:00	NOT RECEIVED		
7438 877:00	NOT RECEIVED		
7438 878:00	NOT RECEIVED		
7438 879:00	NOT RECEIVED		
7438 880:00	NOT RECEIVED		
7438 881:00	NOT RECEIVED		
7438 882:00	NOT RECEIVED		
7438 883:00	NOT RECEIVED		
7438	NOT RECEIVED		

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83 C-2094 I-AH 19

IDR NO. IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REMARKS

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83 C 2094 1-AR 19

IDR NO. / IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REMARKS
884:00			
7438 / 885:00	NOT RECEIVED		
7438 / 886:00	NOT RECEIVED		
7438 / 887:00	NOT RECEIVED		
7438 / 888:00	NOT RECEIVED		
7438 / 889:00	NOT RECEIVED		
7438 / 890:00	NOT RECEIVED		
7438 / 891:00	NOT RECEIVED		
7438 / 892:00	NOT RECEIVED		
7438 / 893:00	REPLACE TURBINE DR FIRE/BALLAST PMP	SEED SECT 50723	WIA-063
MSC / 200-001 / 4/30/85	#1 & #2 L.O. SERVICE PUMPS		OPEN/INSPECT PMR 32
MSC / 200-002 / 5/2/85	L.O. PURIFIER HEATER		OPEN/INSPECT PMR 32
MSC / 200-003 / 5/2/85	DIESEL COLD START PUMP		OPEN/INSPECT PMR-32
MSC / 200-004 / 5/2/85	CONTAMINATED DRAIN COOLER		OPEN/INSPECT PMR 32
MSC / 200-004 / 5/2/85	GLAND EXHAUST FAN		OPEN/INSPECT PMR 32
MSC / 200-006	BOILER/FEED WTR SAMPLE COOLERS		OPEN/INSPECT PMR 32

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83 C 2094 1-AR 19

IDR NO. / IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REMARKS
5/2 85			

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 F-AH 19

IDR NO. IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REMARKS
5/2/85			
MSC 500-008 5/2/85	FOAM PUMP		OPEN/INSPECT FMR 32
MSC 500-009 5/1/85	#1 & #2 F.W. COOLING PUMP		OPEN/INSPECT FMR 32
MSC 500-014 5/2/85	A/C SYSTEM FAN		OPEN/INSPECT FMR 32
MSC 500-015 5/2/85	HOTEL EXHAUST SYSTEM FAN		OPEN/INSPECT FMR 32
MSC 500-016 5/2/85	HOTEL SUPPLY AIR FAN		OPEN/INSPECT FMR-32
MSC 600-003 5/2/85	GALLEY EXHAUST SYSTEM FAN		OPEN/INSPECT FMR-32

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 F-AH 19/20

CFR	TITLE	SOS - SER SOS - DATE	NATURE OF PROBLEM	SHEM - SER SHEM - DATE	RESOLUTION	SHS TO K SER DATE

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 20

IDR NO. / IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REMARKS
7439:746 400:00 5/10/85	SHIP SERVICE AIR COMPRESSOR		NO ACTION REQUIRED
7439:746: 401:00 5/12/85	FW/SW HEAT EXCHANGER		NO ACTION REQUIRED
7439:746 402:00 5/12/85	TURBINE AHEAD MAN VALVE		NO ACTION REQUIRED
7439:746: 403:00 5/12/85	MAIN CONDENSER SW SIDE		NO ACTION REQUIRED
7439:74 404:00 5/12/85	#1 AN CONDENSATE PUMP		NO ACTION REQUIRED
7439:74 405:00 5/12/85	#2 BILGE & BALLAST PUMP		NO ACTION REQUIRED
7439:74 406:00 5/12/85	#1 HOT FW CIRC PUMP		NO ACTION REQUIRED
7439:74 407:00 5/12/85	DRAIN TRANSFER PUMP		NO ACTION REQUIRED
7439:74 408:00 5/12/85	#A EVAP DISTILLATE PUMP		NO ACTION REQUIRED
7439:72 432:00 8/19/85	BALLAST TANKS	SEE SECT 14	FMR-61
7439:74 800:00 4/28/85	F/S ANCHOR WINDLASS	SEE SECT 81	FMR-17
7439:74 801:00 4/28/85	FIRE & BUTTERWORTH PUMP	SEE SECT 58	FMR-18
7439:74 802:00 4/28/85	BILGE & BALLAST PUMP	SEE SECT 58	FMR-19

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 20

IDR NO. / IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REMARKS
7439:74	FIRE & BUTTERWORTH ACCESSORIES	SEE SECT 58	FMR 20

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T AR 20

IDR NO. IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REMARKS
7439:74 B03:00 4/28/85	FIRE & BUTTERWORTH ACCESSORIES	SPEC SECT 58	FMR-20
7439:74 B04:00 4/28/85	CLEAN BALLAST PUMP	SPEC SECT 58	FMR 21
7439:74 B05:00 4/30/85	WINCHES	SPEC SECT 81	LTR 4T0/1030 6/3/85
7439:74 B06:00 4/30/85	ASTERN VALVE	SPEC SECT 51	NO ACTION REQUIRED SUPSHIP LTR 1502E/930 5/16/85
7439:74 B07:00 4/30/85	AHEAD THROTTLE VALVE	SPEC SECT 51	NA FOR ACTION LTR 1502/951 5/20/85
7439:74 B08:00 5/10/85	DA TANK & NOZZLES	SPEC SECT 61	NA FOR ACTION LTR 1502E/1014 6/3/85
7439:74 B10:00 5/12/85	INPORT FEED PUMP	SPEC SECT 60	NA FOR ACTION LTR 1502E/1024 6/3/85
7439:74 B11:00 5/12/85	#2 MAIN CIRC PUMP	SPEC SECT 60	FMR-39
7439:74 B12:00 5/12/85	HP/LP BLEED EXTACTION VALVES	SPEC SECT 51	NA FOR ACTION LTR 1502E/1024 6/3/85
7439:74 B13:00 5/12/85	MAIN CONDENSERS	SPEC SECT 50	FMR-25
7439:74 B14:00 5/12/85	MAIN STEAM STRAINER STRAINER	SPEC SECT 63	FMR 27
7439:74 B15:00 5/12/85	TURBO GENERATOR SURFACE AIR COOLER	SPEC SECT 50	FMR-28

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 C-AR 19/20

CFR	TITLE	SDS - SER SDS - DATE	NATURE OF PROBLEM	SHEM - SER SHEM - DATE	RESOLUTION	SDS TO N SER DATE
1	MEDICAL EQPT ON EMERGENCY	TST-309 20 MAR 84	EMERGENCY POWER TO SELECTED MEDICAL AREAS AND LIGHT	1065 FMS183 22 MAY 85	APPROVED WAIVER OF [illegible]	150 734 [illegible]

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83 C 2094 1 AB 20

IDR NO. / IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REMARKS
7439:74 816:00 5/12/85	FIRE & BOTTERWORTH MFR OPERATED DISCHARGE VALVE	SPEC SECT 58	KA FOR ACTION LTR 1502E/1020 6/3/85
7439:74 817:00 5/12/85	MAIN REDUCTION GEAR	SPEC SECT 52	KA FOR ACTION LTR 1502E/1022 6/3/85
7439:74 818:00 5/12/85	GAS FREE COMPRESSOR	SPEC SECT 50	KA FOR ACTION LTR 1502E/1025 6/3/85
7439:74 820:00 5/12/85	#1 & #2 MAIN LOBE OIL COOLERS	SPEC SECT 57	FMR 29
7439:74 821:00 5/12/85	CONTROL AIR COMPRESSOR	SPEC SECT 61	FMR-30
7439:74 822:00 5/12/85	TURBO GEN REDUCTION GEAR	SPEC SECT 50	FMR-40
7439:74 823:00 5/12/85	CLEAN BALLAST TOMB LIQUID END	SPEC SECT 58	FMR 31
7439:74 824:00 5/12/85	#2 DISTILLANT CONDENSATE PUMP	SPEC SECT 60	KA FOR ACTION LTR 1502E/1024 6/3/85
7439:74 825:00 5/12/85	#1 MAIN CONDENSATE PUMP	SPEC SECT 60	FMR-26
7439:74 826:00 5/12/85	EVAP FEED PUMP	SPEC SECT 55	KA FOR ACTION LTR 1502E/1015 6/3/85
7439:74 827:00 5/12/85	EVAP BRINE PUMP	SPEC SECT 55	KA FOR ACTION LTR 1502E/1016 6/3/85
7439:74 828:00 5/21/85	EVAPORATORS	SPEC SECT 55	KA FOR ACTION LTR 1502E/119 6/28/85
7439:74 829:00 5/20/85	H.P. TURBINE	SPEC SECT 52	FMR-35

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83 C 2094 1 AB 20

IDR NO. / IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REMARKS
7439:74 830:00 5/21/85	L.P. TURBINE	SPEC SECT 52	FMR 37

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83 C-2094 1-AH 20

IDR NO. IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REMARKS
7439:74 830:00 5/21/85	F.P. TURBINE	SPEC SECT 52	FMR-32
7439:74 831:00 5/21/85	#2 MN CONDENSATE PUMP	SPEC SECT 60	NA FOR ACTION LTR 1502E/1404 8/6/85
7439:74 832:00 5/21/85	MN CONDENSER FLEX EXPAN JOINTS	SPEC SECT 60	NA FOR ACTION LTR 1502E/1159 6/25/85
7439:74 833:00 5/21/85	LINE SHAFT BEARING	SPEC SECT 53	EVALUATE IDR 817:00 IDR MEETING 7/9/85
7439:00 834:00 5/21/85	MN STEAM LINE UT	SPEC SECT 63	FOR INFO ONLY
7439:74 835:00 5/27/85	STBD STOKES DAVIT	SPEC SECT 81	FMR-34
7439:74 836:00 5/27/85	PORT STOKES DAVIT	SPEC SECT 81	FMR-34
7439:74 837:00 5/27/85	AIR FLASKS	SPEC SECT 72	NA FOR ACTION LTR 1502E/1204 7/1/85
7439:74 838:00 6/9/85	TURBO GEN TURBINE	SPEC SECT 88	FMR-44
7439:74 839:00 6/9/85	GLAND EXH. CONDENSERS	SPEC SECT 60	FMR-41
7439:74 840:00 6/9/85	#2 MAIN FEED PUMP	SPEC SECT 60	FMR-44
7439:74 841:00 6/9/85	#1 MAIN FEED PUMP	SPEC SECT 60	NA FOR ACTION LTR 1502E/1405 8/6/85
7439:74 842:00	STEERING GEAR	SPEC SECT 50	NA FOR ACTION IDR MEETING 5/21/86
7439: 843:00	NOT RECEIVED		

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83 C-2094 F AH 19/20

DER TITLE	SDS - SER SDS - DATE	NATURE OF PROBLEM	SHEM - SER SHEM - DATE	RESOLUTION	SDS TO K SER DATE

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83 C-2094 T-AH 20

IDR NO. IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REMARKS
7439:74 844:00	#1 MOORING WINCH HYD PUMP	SPEC SECT 81	FMR 66
7439:74 845:00	#1 MOORING WINCH HYD MTR	SPEC SECT 81	FMR-66
7439:74 846:00	#2 MOORING WINCH HYD PUMP	SPEC SECT 81	FMR 67
7439:74 847:00	#2 MOORING WINCH HYD MTR	SPEC SECT 81	FMR 67
7439:74 848:00	#3 MOORING WINCH HYD PUMP	SPEC SECT 81	FMR-68
7439:74 849:00	#3 MOORING WINCH HYD MTR	SPEC SECT 81	FMR-68
7439:74 850:00	#4 MOORING WINCH HYD PUMP	SPEC SECT 81	FMR 69
7439:74 851:00	#4 MOORING WINCH HYD MTR	SPEC SECT 81	FMR-69
7439:74 852:00	#5 MOORING WINCH HYD PUMP	SPEC SECT 81	FMR-70
7439:74 853:00	#5 MOORING WINCH HYD MTR	SPEC SECT 81	FMR-70
7439:74 854:00	#6 MOORING WINCH HYD PUMP	SPEC SECT 81	FMR-71
7439:74 855:00	#6 MOORING WINCH HYD MTR	SPEC SECT 81	FMR-71
7439:74 856:00	MN FEEDING PUMP REMOTE STARTING SYSTEMS	SPEC SECT 60	NO ACTION TAKEN IDR MEETING 12/4/85
7439:74 857:00	FF TURBINE REPAIRS	SPEC SECT 52	NA FDR ACTION IDR MEETING 7 NOV 85
7439:74 858:00	#3 MOORING WINCH MIDSHIP FWD	SPEC SECT 81	FMR-73
7439:74 859:00	#1 MOORING WINCH PORT FWD	SPEC SECT 81	FMR 74
7439:74 860:00	#2 MOORING WINCH STBD FWD	SPEC SECT 81	FMR 75

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83 C-2094 T-AH 20

IDR NO. IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REMARKS
7439: 861:00	HYDRO PNEUMATIC TANK	SPEC SECT 59	NO ACTION TAKEN

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024 83-C-2094 T-AH 20

IDR NO. IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REMARKS
7439: 861:00	HYDRO PNEUMATIC TANK	SPEC SECT 59	NO ACTION TAKEN IDR MEETING 12/4/85
7439:74 862:00	#6 MOORING WINCH-MECHANICAL	SPEC SECT 81	FMR-78
7439:74 863:00	#5 MOORING WINCH MECHANICAL	SPEC SECT 81	FMR 79
7439:74 864:00	#4 MOORING WINCH-MECHANICAL	SPEC SECT 81	FMR 80
7439:74 865:00	RUSTED BOLTS ON CLEAN BALLAST PUMP EXH. LINE	SPEC SECT 58	FMR-83
7439: 866:00	NOT RECEIVED		
7439:726 867:00	PAINT POT WTR INS & DISTILLED WTR TANK	SPEC SECT 14	NA FOR ACTION IDR MEETING 3/21/86
7439:716 868:00	INSTALL LADDER AFT EXTERIOR STACK	SPEC SECT 61	FMR-110
7439:751 869:00	NOT RECEIVED		
7439: 870:00	NOT RECEIVED		
7439:746 871:00	MAIN REDUCTION GEAR LIN SET	SPEC SECT 52	CODE 1500 FOR EVALUATION
7439:751 872:00	SEAE STRAINER BASKETS W/MAGNETS	SPEC SECT 57	FMR 202
7439:URG/6 873:00	DAMAGE TAGGING & FAPS	SPEC SECT 75	FMR-203
7439:746 874:00	F/S BOILER FLOOR TUBES	SPEC SECT 61	FMR-139
7439:00 875:00	CARPET IN AFT HOUSE	SPEC SECT 6	FMR-149
7439:00 876:00	REPAIR STEERING GEAR	SPEC SECT 14	FMR-144
7439:00 877:00	PAINT STBD FAN RM MN DK	SPEC SECT 14	NA FOR ACTION IDR MEETING 7/29/86
7439:00 878:00	PAINT PORT FAN RM MN DK	SPEC SECT 14	FMR-145

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 20

IDR NO. IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REMARKS
7439:00 879:00	SHOWER SPACES	SPEC SECT 6/19	FMR-146
7439:756 880:00	LAUNDRY EQUIPMENT	SPEC SECT 6/18	NA FOR ACTION IDR MEETING 7/29/86
7439:00 881:00	RETOP/RESEAL TERRAZO	SPEC SECT 6	FMR-147
7439:00 882:00	REPLACE CURTAINS/MATTRESS	SPEC SECT 19	FMR 148
7439:00 883:00	PAINT P'OCLE AREA	SPEC SECT 14	FMR-152
7439:00 884:00	WATER COOLER	SPEC SECT 20	FMR 202
7439:00 885:00	BLAST/PAINT TANKS	SPEC SECT	TO CODE 1500 FOR EVALUATION
7439:00 886:00	BLAST/PAINT STACK INTERIOR	SPEC SECT 61	FMR-190
7439:00 887:00	NOT RECEIVED		
7439:00 888:00	NOT RECEIVED		
7439:00	REPLACE TURBINE DR ON FIRE-BALLAST PMP	SPEC SECT 50/23	REQUEST FOR ECP
7439:00 890:00	RETRACTABLE SOOT BLOWER	SPEC SECT 61	FMR-258
7439:00 891:00	NOT RECEIVED		
7439:00 892:00	SOOT BLOWER (PORT/STBD)	SPEC SECT 61	FMR 258
7439:00 928:00	LAGGING	SPEC SECT 75	TO CODE 1500 FOR EVALUATION
7439 944:00	PAINT ELEVATOR/TRUNK	SPEC SECT 14	
7439 945:00	PAINT STAIRWELL	SPEC SECT 14	
7439 947:00	RESEAL TERRAZO	SPEC SECT 6	

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 20

IDR NO. IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS AFFECTED DRAWINGS	REMARKS

DATE: September 23, 1987

NAVSEA CONTRACT NUMBER N00024-83-C-2094 T-AH 20

IDR NO. / IDR DATE	SUBJECT	AFFECTED SPECIFICATIONS / AFFECTED DRAWINGS	REMARKS
7439:00 946:00	RETILE AREAS IN AFT DECK HOUSE	SPEC SECT 6	FMR-289
7439:00 959:00	VENT SCREEN AFT DECK HOUSE AREA	SPEC SECT 12	
7439:00 960:00	SHOWER CURTAINS	SPEC SECT 19	
7439:00 961:00	MATTRESSES AFT DECK HOUSE	SPEC SECT 19	
7439:00 962:00	LOCKERS	SPEC SECT 1	NA FOR ACTION
7439:00 963:00	CARPET 04-91 1 SENIOR MED OFF	SPEC SECT 6	
7439:00 964:00	DECK IN AFT HOUSE CHILL/FREEZER	SPEC SECT 6/17	FMR-290
7439:00 965:00	A/C & EXHAUST FAN AFT DECK HOUSE	SPEC SECT 12	
7439:00 966:00	WASHER/DRYER FOR CREW	SPEC SECT 18	
7439:00 974:00	PAINT INTERIOR AFT HOUSE	SPEC SECT 14	FMR-293
7439:00 975:00	SHIPSERVICE/CONTROLLER AIR SYST	SPEC SECT 50	FMR-294
7439:00 976:00	DECK TILE IN COMPT 01-96-0	SPEC SECT 6	FMR-306
7439:00 989:00	PAINT E.R. ACCESS	SPEC SECT 14	C/1500
7439:00 990:00	PAINT E.R. CONSOLE	SPEC SECT 14	C/1500
7439:00 991:00	PAINT GRATING ENG RM	SPEC SECT 14	C/1500
7439:00 992:00	PAINT BEHIND BOILERS	SPEC SECT 14	C/1500
7439:00 993:00	PAINT 2136 GRATING/HANDRAILS	SPEC SECT 14	C/1500

DATE: September 24, 1987

NAVSEA CONTRACT NUMBER N00024 83 C-2094 1-AH 19/20

TEK	TITLE	SQS - SER SQS DATE	NATURE OF PROBLEM	SHEM SHEM	SER DATE	RESOLUTION	SQS TO K SER DATE
1	MEDICAL FQFT ON EMERGENCY SWITCHBOARD	151-309 20 MAR 84	EMERGENCY POWER TO SELECTED MEDICAL AREAS AND FQFT CORRECT PAGE 16 (COAST GUARD DOES NOT PERMIT CONNECTION OF MEDICAL EQPT TO EMERGENCY SWITCHBOARD)	1065 FMS183 22 MAY 84		APPROVED WAIVER OF COAST GUARD REQUIREMENTS	150-734 13 JUN 84
2	HELICOPTER LANDING PAD	150-2144 11 SEP 84	TWO DIFFERENT CONFIGURATIONS OF HELICOPTER LANDING PADS	SEA 0224/2124 17 OCT 84		DWG SHOW ONE (1) LANDING PAD PROVIDED	150 68 17 JAN 85
3	CONTROLLER FOR O2N2 COMPRESSORS		SIZE 7 MAGNETIC CONTROLLER REQUIRED NO MFG FOR SIZE 7 CONTROLLER VENDOR STATE SIZE 6 WOULD FUNCTION CORRECTLY			REF 0020(A/B)	APPROVED 1/11/85

FE

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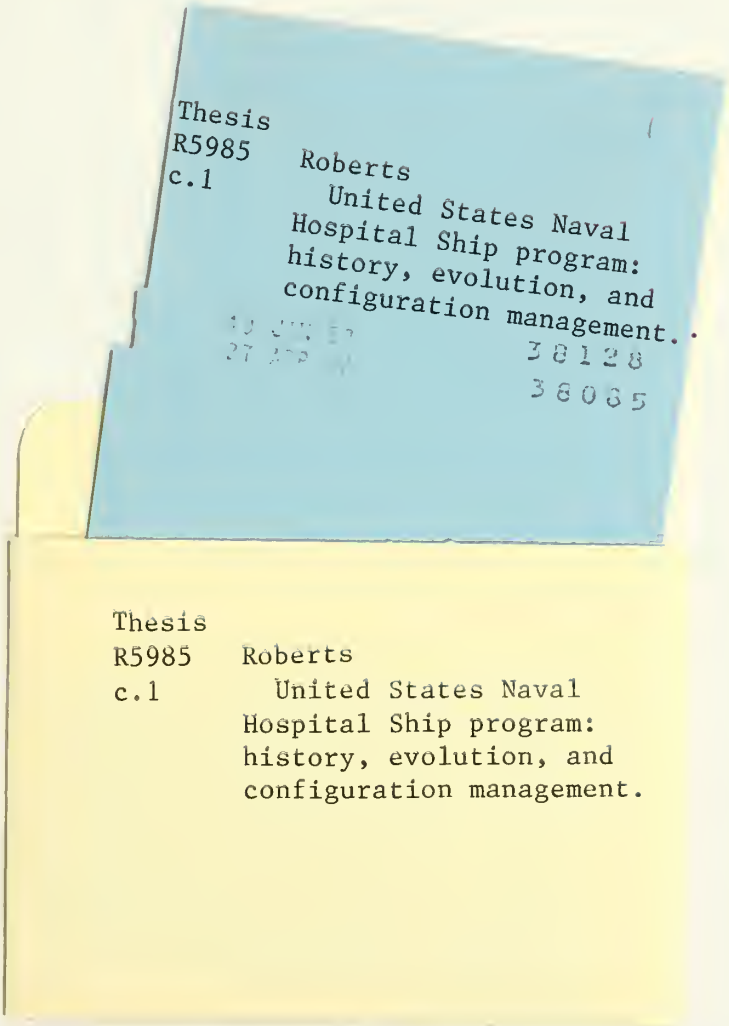
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